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NATIONAL ENVIRONMENTAL SPECIMEN BANK SURVEY

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Oak Ridge National Laboratory

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This report was submitted in fulfillment of Project Number IAA005, Interagency Agreement Number IAG-D4-0509, by the Environmental Sciences Division, Oak Ridge National Laboratory, which is operated by Union Carbide under contract with the U. S. ERDA. The work was performed under the sponsorship of the Environmental Protection Agency and was completed as of August 1975.

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This Survey was composed and indexed by computer programs forming a part of the Oak Ridge Computerized Hierarchical Information System (ORCHIS) operated by the Computing Applications Department within the Computer Sciences Division, Union Carbide Nuclear Division, located at Oak Ridge National Laboratory, Oak Ridge, Tennessee.

SECTION I

CONCLUSIONS

The National Environmental Specimen Bank (NESB) Survey has been successful in identifying 657 extant specimen and data collections in the United States. The collections documented in the NESB Survey Data Base include the following categories: animal, atmospheric, geological, microbiological, plant, and water. The NESB Survey Data Base is unique in that it provides potential access through indices to these collections for obtaining chemical, physical, and taxonomic information on their contents.

The NESB Survey also has prompted a number of important considerations for the respondents. First, it has informed them of a national interest in their collections and the potential importance of well-documented collection contents for environmental impact evaluations. Second, it has prompted some of the respondents to re-evaluate their collections and their sampling and storage techniques in view of the potential usefulness of the collections. Third, the Survey will provide a basis for initiating information exchange among researchers and decision makers who require access to both specimens and data that exist in other locations. Finally, the Survey has provided an opportunity for several federal agencies to take a closer look at the numerous collections being maintained by various sectors of their organizations.

The NESB Survey results indicate that, in general, the collections being stored currently in the United States are not appropriate for retrospective chemical analyses because of collection, preparation and storage techniques being utilized.

SECTION II

RECOMMENDATIONS

1. The unique contents of the National Environmental Specimen Bank (NESB) Survey Data Base provide identifications of both specimen and data collections from many areas of the United States. We strongly recommend that this Data Base be maintained and continuously updated through entries of (i) newly identified collections, (ii) additional information on previously documented collections through follow-up activities, and (iii) evaluations of documented collections by the National Bureau of Standards.

2. The NESB Survey covered the biological fields in much greater depth than the medical, geological, hydrological, and atmospheric fields because of the strong biological and ecological emphasis of the directories utilized in preparing the mailing list. For this reason, we recommend that follow-up activities concentrate in these latter areas. There was no attempt made to cover the private sector because of (i) private laboratories not always being contractually free to share data and specimens and (ii) an expected small return for a great deal of time and effort expended.

3. One of the comments most frequently received from respondents was that the NESB Survey form was not suitable for describing curated systematics collections. It was not intended for this purpose. The Association of Systematics Collections has a project underway which will catalog such collections and make the accumulated information available to those who need it. However, there are some very old curated collections which may be suitable for inclusion in the NESB (i.e., invertebrate shell collections). More of these collections should be identified as to their usefulness and availability for chemical analysis.

4. Our experience with the NESB Survey has resulted in the following recommendations specific to the Survey form:
   a) Professional design of the Survey form, for both appearance and clarity of questions.
   b) Separate records should be input for each discrete type of collection.
   c) Additional questions should be added to the form to permit more adequate descriptions of collections which are not biological.
   d) Sample classification should include the subject category codes beside the written classification and recipients would be asked to check the appropriate boxes.

e) Space for a narrative characterization of each specimen collection by the recipient should be added.
f) Recipients should be asked to indicate their organizational affiliation such as private laboratory, specific government agency, etc. Attempts were made by us to identify and classify organizations but this could be more accurately done by the respondents.

SECTION III

INTRODUCTION

OBJECTIVES OF THE NATIONAL ENVIRONMENTAL SPECIMEN BANKING SYSTEM

The need for a National Environmental Specimen Banking System is based on the current inability to define the deleterious effects of pollutants on our health and our environment. Both inadequate environmental monitoring data and inadequate synthesis of the available environmental reconnaissance data contribute to this problem. With this need in mind, the concept of the National Environmental Specimen Banking System (NESB) was initially formulated at an EPA Symposium in February 1973 and a National Academy of Sciences Workshop for the Subcommittee on the Geochemical Environment in Relation to Health and Disease in May of 1973. The Environmental Protection Agency initiated the resulting effort with joint funding through a grant from the National Science Foundation's RANN Program. This effort was designed to meet the following objectives: 1) to conduct a survey and evaluation of existing specimen collections in the United States, 2) to organize a planning committee to evaluate the feasibility of such a banking system, 3) following the evaluation, to develop a five-year plan for carrying out the work, and 4) to develop a program to establish criteria for sample collection, preparation, storage, and analysis.

The EPA was chosen for this effort because of their experience in several programs dealing with the collection and storage of human tissues. It was decided that the primary activity for the first year would center around developing the survey of existing systems. The Environmental Sciences Division of Oak Ridge National Laboratory (ORNL) was chosen to perform the survey because of their involvement in both the development of specimen banking systems and information handling. Concurrently, the National Bureau of Standards (NBS) was involved in an evaluation of various storage techniques and evaluation and development of analytical capabilities for stored specimens. Therefore, it was decided that the conduct of the survey should be performed in close collaboration with the activities of the National Bureau of Standards.

PURPOSE AND OBJECTIVES OF THE NESB SURVEY

The purpose of this Survey was to attempt to identify those places in the continental United States that are currently or have been storing materials collected in either research or monitoring activities. The objectives of the Survey were to identify 1) where collections were located, 2) who maintained the collections, 3) what the collections consisted of, 4) what analyses had been performed on the materials in the collections, 5) how the sample collections had been preserved and stored, and 6) accessibility of the stored materials and associated data to both research and regulatory personnel. The Survey was designed to include collections in the following areas: atmospheric, geological, human tissue, animal tissue, plant tissue, and water samples. During early discussion among personnel from NSF/RANN, EPA, NBS, and ORNL, a list of key items for the Survey was developed and included in our proposal to EPA (Appendix A). From this list, the Survey sheets were developed as is described in Section IV. It was realized from the outset that the Survey could not possibly cover all appropriate collections and that a number of contacts would be made that would be unproductive. For these reasons, the Survey itself is a continuing activity which will be updated by adding information on newly identified collections and by follow-up information on collections already identified. In addition, it has been agreed that all information pertinent to these collections will be recorded on the ORNL computerized data base including the evaluation of the collections being performed by the National Bureau of Standards.

ASSOCIATION OF SYSTEMATICS COLLECTIONS COOPERATION

During the planning stages of the Survey, contacts were made with the Association of Systematics Collections (ASC). The ASC, through its individual societies, was surveying the systematics resources within the United States. This survey was not complete at the time contacts were made. However, the ASC office sent a memo to its institutional representatives explaining the NESB Survey project and the rationale behind it. This memo resulted in additional contacts with individuals who were maintaining pertinent collections. The ASC also agreed to act as a clearinghouse for collections in danger of being discarded. Information concerning such collections was transmitted to Dr. Stephen R. Edwards, Executive Secretary of the ASC. He, in turn, contacted individuals who might be interested in acquiring additional specimens.

SECTION IV

DEVELOPMENT OF SURVEY FORM AND INDICES

SURVEY FORM

The survey form was developed from the "Evaluation Criteria for Existing Environmental Specimen Collections," (Appendix A), in the ORNL research proposal to the EPA and is included in Appendix B along with the descriptor for completing the form. The form was reviewed and approved by EPA, NBS, and ORNL personnel. In formatting the survey form, attempts were made to make answering the questions as easy as possible. The recipient's name and address were put on each form before it was mailed, check boxes were used where possible, and the form itself was designed to fit on two sides of one page.

The form was designed with four primary goals in mind: 1) for ease of completion by the recipient, 2) to secure enough pertinent information for collection evaluation by the National Bureau of Standards, 3) to permit documentation of diverse types of collections using a single form, and 4) to obtain accurate descriptions of the specimen collections. These goals were only partially fulfilled.

The major shortcoming of the form was that it was designed to describe a single type of collection. When information concerning diverse types of collections was described on one form, the information has proven to be difficult to interpret accurately for computer input.

The form appears to be more applicable to biological collections. This bias is primarily due to the recognition that biological collections are the most difficult to collect, preserve, and store in a manner which will not contaminate the specimens and that many diverse methods are currently being used, depending upon the purpose for which the specimens were collected.

SURVEY FORM FORMAT AND INDICES

The individual specimen collection records are categorized in two ways. First, they are listed by component of interest with "See Also" references under the component heading. If the component of interest is only one of several components analyzed, the "See Also" references indicate other collections categorized under different components but also analyzed for the component indicated. Second, within the component of interest heading, the records are sorted as to collection content. Thus, the microbiological, plant, animal, etc., collections are grouped together.

Three indices are included with the published survey information. First, an index is provided on the names, addresses, and telephone numbers of persons to contact concerning individual collections. This listing is categorized as to organizational affiliation. Contacts in charge of state and federal government, private laboratory, university, and personal collections are grouped under these headings and sorted by state. The second index is a simple alphabetical listing of the names of contacts, and a third index is provided for sampling location. This index lists only the states from which environmental samples have been obtained. The numbers associated with the indices refer to individual record numbers in the primary listing.

SECTION V

DEVELOPMENT OF MAILING LIST AND MATERIAL

MAILING LIST

A distribution list for the initial letter consisting of 4,130 names, addresses, and some telephone numbers was prepared. This list was produced by manually scanning 12,000 records from the ORNL Information Center Complex (ICC) Directory and 4,120 records from The Institute of Ecology (TIE) Directory. These separate lists were subset, the identifier table was changed to make the two subsets compatible, and they were merged to form a new data base. In addition, over 600 names and addresses were added to this core base from various sources such as government agency directories, scanning over 100 college catalogs, suggestions from individuals, and other miscellaneous directories. These names were chosen by field of interest, job description, and geographic location. The list was checked as carefully as was possible to eliminate multiple mailings to university departments, government agencies, etc. Corrections and deletions were then made on the master list which contained approximately 7,500 names to bring it down to the total of 4,130. The entire master list was used to produce computer-generated mailing labels for each letter.

Reference cards were included with each initial letter, asking the recipients to furnish us with the names and addresses of other persons or institutions maintaining collections of interest. We received approximately 800 referrals. Many of the referrals were to persons or institutions we had previously contacted. These duplicates were discarded and the remaining referrals (approximately 450) were contacted. The percentage of forms returned from the referrals was considerably higher than from the original mailing (32% vs. 12%).

MAILING MATERIALS

It was decided that initially we would mail letters of intent (Appendix C) explaining the objectives and purpose of the survey and include in these letters a card to be returned which would indicate whether or not a collection existed and the postcard for referencing other collections of which the recipient was aware. Following receipt of the postcard indicating the presence of a specimen collection or a data collection, a second set of materials (Appendix B) consisting of a letter explaining the survey form to be filled out, a descriptor to assist in completing the survey form, and the form itself was mailed. There were numerous instances where telephone calls were required to clarify some of the questions on the survey form.

SECTION VI

DATA BASE DEVELOPMENT AND MAINTENANCE

NESB SURVEY DATA BASE

The original mailing list was subset to produce a separate data base of names and addresses of the individuals who returned forms. The records of this subset contained the following information:

Name
Address
Telephone Number
Alphabetical Sort Code
State
Zip Code
Country

The information submitted on the survey forms was added to this existing information. Thus, it was not necessary to reinput information which had previously been input into the computer. The original mailing list is being maintained as a separate data base. It has proven to be useful in locating names, addresses, and telephone numbers for other purposes, as well as for record maintenance.

Each question has been described as a discrete piece of information using alphanumeric field identifiers which can easily be matched to each numbered question; e.g.,

> Identifier <A6> matches Question 6, Intent or rationale for collection. On the final published copy, <A6> reads as "Intent or rationale for collection".

Identifiers have also been added to refer to the necessary codes which did not appear on the form such as sort codes for type of collection. Long lists of species or genus have not been input, but it has been noted that these are available. Publication descriptions of papers which have resulted from research connected with the collections have been included for each record when available.

All of the information furnished by the recipients of the survey form has been recorded. Many of the collections did not lend themselves to the type of documentation requested or the information was simply not available.

The input has been keyed to sort the records in a variety of ways. They can be sorted by:

Alphabetical Sort Code
State
Zip Code
Type of Collection
Purpose of Collection
Type of Institution Holding Collection
Component of Interest

These sort capabilities may be used for primary, secondary, tertiary, etc., sorting. For instance, a primary sort could be made on type of institution, the next sort on state, and the tertiary sort on zip code. This would produce a listing that groups all records from universities, federal and state agencies together. Under the major groupings (universities, federal and state agencies) the records would be grouped by state, then by city.

Information can be retrieved by the keywords; city, state, county, geographical location, type of collection, component of interest, purpose of collection, or name of contact. It may also be retrieved by "string-searching" (i.e., looking for a desired description contained in the text either in all fields or in a particular field). An example of this might be the word "Glass". All records which contain this word would be subset to produce a listing of all collections stored in glass containers. To limit this listing, the words "Glass" and "Plants" could be combined to produce a listing of all collections of plants stored in glass containers. Thus, simple Boolian logic can be used effectively to search this data base.

RECORD MAINTENANCE

The original mailing list has been used for record-keeping purposes. Every card returned to us has been recorded on this list under STATUS. Five different kinds of information are recorded: "Outstanding" meaning a letter was sent but no reply was received, "No" meaning the recipient does not have a collection, "Yes" meaning a recipient does have a collection, "Form S" - a form was sent and "Form R" - a form was returned. As the STATUS for each record changes, these were noted on the file. In addition, each returned card was filed in a card file. Separate files were maintained for the "Yes" cards, "No" cards and Reference cards. The original forms were reproduced and kept in a separate file. Three copies of the returned forms were made. One copy was sent to NBS for evaluation, one sent to EPA, and the final copy was marked for computer input.

SECTION VII

DISCUSSION

Forty-five hundred letters stating the NESB Survey intention were mailed. Of these, there were 908 "Yes" responses, 935 "No" responses, and 455 referrals to other collections. Following receipt of the "Yes" responses, 903 survey forms were mailed, of which 671 were returned and copies forwarded to the National Bureau of Standards. The information contained in the returned survey sheets was entered into the NESB Survey Data Base (Appendix D) with the following exceptions: 1) deletion because of insufficient information, 2) deletion because of inappropriateness for the NESB Survey, 3) deletion because of receipt of more than one form on a given collection, and 4) deletion by request of the respondent. A total of 14 collections were deleted from the survey sheets returned resulting in a total of 657 collections identified in the data base. As indicated in SECTION IV, three indices have been prepared for the NESB Survey Data Base (respondent's name and address categorized by organizational affiliation, alphabetical listing of respondents, and sampling location) and are included in Appendix D. The distributions of specimen collections identified in the NESB Survey are illustrated in Tables 1-4. Of the collections identified, the majority were biological, and in most cases biological collections in museums which are not necessarily available or useful for chemical analyses. The majority of the collections identified as useful for chemical analyses had been used for trace element evaluations. A smaller number of collections had been utilized for organic analyses. The collections identified in the NESB Survey (Appendix D) are currently being evaluated by the National Bureau of Standards as to their appropriateness as potential "standard methods" of collection, handling, analysis, and storage of environmental samples.

Table 1. COLLECTIONS IDENTIFIED IN NESB SURVEY CLASSIFIED ACCORDING TO TYPE OF COLLECTION

	Number
Federal	147
State	107
Personal	14
Private Laboratory	30
Private Museum	13
University	347

Table 2. COLLECTIONS IDENTIFIED IN NESB SURVEY CLASSIFIED ACCORDING TO COMPONENT OF INTEREST IN SPECIMENS

	Number
Trace Elements	148
Pesticides	65
Microbiological	58
Mineralogical	78
Organic	64
Radionuclides	34
Medical	33
Other	422
Major Elements	35

Table 3. COLLECTIONS IDENTIFIED IN NESB SURVEY CLASSIFIED ACCORDING TO USE OF COLLECTION

Primary Uses		Secondary Uses
96	Chemical Analysis and Baseline Studies	13
9	Personal Collections	
57	Museum Collections	26
50	Environmental Monitoring	13
60	Reference Collections	26
91	Teaching Collections	30
106	Research	118
61	Ecology, Population and Species Diversity	18
51	Systematics, Taxonomy, Identification and Morphology	29
22	Diseases	3
20	Soil Characterization	2
7	Physiology	5
16	Seeds	4
11	Specimen Banks	2

Table 4. COLLECTIONS IDENTIFIED IN NESB SURVEY CLASSIFIED ACCORDING TO COLLECTION CONTENTS*

	Number
Microorganisms	52
Viruses	15
Bacteria	46
Plants	283
Algae	90
Fungi	66
Lichens	40
Embryophytes	34
Bryophytes	48
Tracheophytes	76
Pteridophytes	83
Spermatophytes	161
Animals	369
Invertebrates	240
Vertebrates	228
Human Tissues	34
Fossils	19
Crustal Materials	170
Soils	79
Bedrock	53
Organic Detritus	16
Bottom Sediments	94
Water	118
Freshwater Lakes	99
Rivers or Streams	105
Groundwater	26
Brackish Water	20
Seawater	36
Air	50
Gaseous	13
Particulates	43
Precipitation	17

*Each entry was classed as to whether it described 1) a number of diverse collections in many areas, i.e., water, botanical, geological, etc., 2) a number of different organisms or types of material in one class such as all geological but including more than one grouping, i.e., soils, organic detritus, bedrock and bottom sediments, 3) single collections, such as all vertebrates, all spermatophytes, etc.

SECTION VIII

APPENDICES

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APPENDIX A

Evaluation Criteria for Existing Environmental Specimen Collections

1. SAMPLE CLASSIFICATION

   1.1 Tissue

      A. Plant
         1. microbes
         2. cryptozoans
         3. vascular plants
         4. wild and domestic

      B. Animal
         1. trophic position
         2. taxonomic categories
         3. wild and domestic

      C. Human

   1.2 Crustal Materials

      A. Soil Families

      B. Rocks and Minerals

      C. Sediments

      D. Organic Detritus

   1.3 Water

      A. Freshwater Lakes (fertility classes)

      B. Flowing Freshwater (pristine vs. impacted classes)

      C. Estuarine

      D. Marine

   1.4 Air

      A. Gaseous

      B. Particulates
         1. physical (size)
         2. chemical
         3. biological

      C. Precipitation

2. SAMPLING RATIONALE

   2.1 Component of Interest

      A. Trace Element

      B. Trace Organics

      C. Essential Nutrients

      D. Radionuclide

- E. Medical
  - 1. normal
  - 2. diseased
- F. Microbiological
- G. Other (specify)

2.2 Other Reasons for Banking

3. SAMPLING METHODOLOGY

3.1 Sampling Implement
- A. Composition
- B. Procedure Used

3.2 Temporary Storage
- A. Container Composition
- B. Procedure Used
- C. Container Contact Time (before permanent storage)

3.3 Sample Preparation
- A. Intact Storage
- B. Fractionated
- C. Drying
- D. Homogenization

3.4 Sample Preservation Procedure
- A. Freezing
- B. Lyophilization
- C. Low-Temperature Ashing
- D. High-Temperature Ashing
- E. Chemical Stabilization
  - 1. chemical used (purity)
  - 2. concentration
- F. Radiation
- G. Fumigation
- H. Other (specify)
- I. None Used

4. SAMPLE STORAGE

4.1 Container Composition

4.2 Bank Storage Conditions
- A. Temperature Control
- B. Humidity Control

C. Lighting Exposure

D. Composition of Storage Media (e.g., air, inert gas, formaldehyde, etc.)

4.3 Shelf Life (if known)

4.4 Storage Time [quantity (%) vs. time (yr)]

4.5 Sample Documentation

A. Date of Sampling

B. Location of Sampling

C. Pre-sampling History

D. Other

5. SAMPLE ACCESS

5.1 Subsample Withdrawal

APPENDIX B

NATIONAL ENVIRONMENTAL SPECIMEN BANK SURVEY

1. Person to Contact: ____________________
   Address: ____________________
   Telephone Number: ____________________
2. Name and Location of Specimen Collection: ____________________
   ____
3. Sample Classification (Check as many as are applicable)

☐ Data Collection Only ☐ Data and Specimens ☐ Specimens Only

- ☐ Tissue
- ☐ Microorganisms
  - ☐ Viruses
  - ☐ Bacteria
- ☐ Plants
  - ☐ Algae
  - ☐ Fungi
  - ☐ Lichens
  - ☐ Embryophyta
  - ☐ Bryophyta
  - ☐ Tracheophyta
  - ☐ Pteridophyta
  - ☐ Spermatophyta
  - ☐ Wild
  - ☐ Domestic
  - ☐ Aquatic
  - ☐ Marine
  - ☐ Terrestrial
- ☐ Animals
  - ☐ Aquatic
  - ☐ Marine
  - ☐ Terrestrial

Animals (Cont)
- ☐ Domestic
- ☐ Wild
- ☐ Vertebrate ____________
- ☐ Invertebrate ____________

- ☐ Human
  - ☐ Diseased
  - ☐ Normal
  - ☐ Bone
  - ☐ Organs
  - ☐ Hair
  - ☐ Teeth
- ☐ Crustal Materials
  - ☐ Soils
  - ☐ Bedrock
  - ☐ Organic Detritus
  - ☐ Bottom Sediments
    - ☐ Lakes
    - ☐ Rivers or Streams
    - ☐ Estuarine
    - ☐ Marine

- ☐ Water
  - ☐ Freshwater Lakes
    - ☐ Eutrophic
    - ☐ Oligotrophic
    - ☐ Dystrophic
  - ☐ Rivers or Streams
  - ☐ Groundwater
  - ☐ Brackish Water
  - ☐ Seawater
    - ☐ Estuarine
    - ☐ Coastal
    - ☐ Marine
- ☐ Air
  - ☐ Gaseous
  - ☐ Particulates
    - ☐ Physical
    - ☐ Chemical
    - ☐ Biological
  - ☐ Precipitation

4. Scientific Name (if single species collection): ____________________
   ____
   4.1 Reference Source: ____________________
5. Common Name (if single species collection): ____________________
   ____
6. Intent or Rationale for Collection: ____________________
   ____
7. Sampling Location: ____________________
   City: ____________________
   County: ____________________
   State: ____________________
   Other: ____________________
8. Presampling History: ____________________
   ____
   ____
   ____
9. Number of Samples: ____________________
10. Dates of Sampling (Inclusive dates, range of time): ____________________
    ____
11. Component in Specimens of Interest: ____________________
    ☐ Trace Elements ☐ Microbiological ☐ Organics ☐ Medical
    ☐ Pesticides ☐ Minerological ☐ Radionuclide(s) ☐ Other
12. Sample Composition: ____________________
    ____
13. Method Used to Take Sample: ____________________
    ____
    ____

14. Temporary Storage Conditions
14.1 Container Composition:______________________________
____
14.2 Procedure Used:______________________________
____
____
14.3 Container Contact Time before Permanent Storage:______________
____

15. Sample Preparation (check one)
☐ Intact Storage ☐ Fractionated ☐ Homogenization
15.1 Freezing(degrees C):______________________________
15.2 Low Temperature Ashing(degrees C):______________________
15.3 High Temperature Ashing(degrees C):_____________________
15.4 Chemical Stabilization
Chemical Used:______________________________
____
Concentration:______________________________
Purity:______________________________
15.5 Radiation Source:______________________________
Dose (Rads):______________________________
____
15.6 Fumigation (Chemical):______________________________
Amount:______________________________
15.7 Lyophilization:______________________________
15.8 Drying:______________________________
15.9 Other (Specify):______________________________

16. Permanent Storage Conditions, if applicable
16.1 Container Composition:______________________________
____
16.2 Temperature Control:______________________________
16.3 Humidity Control:______________________________
16.4 Lighting Exposure:______________________________
16.5 Composition of Storage Media (e.g. air, inert gas, formaldhyde, etc):______________________________
____
____

17. Shelf Life of Sample (if Known):______________________________
____

18. Availability to Outside Researchers (Samples and or Data):__________
____
____

19. Additional Information:

Return to:
Elaine Huber
Building 2028
Oak Ridge National Laboratory
P. O. Box X
Oak Ridge, TN 37830
Telephone: (615)483-8611, Ext. 3-1784 or 3-1530

DIRECTIONS FOR COMPLETING SURVEY SHEET

PLEASE PRINT OR TYPE

This is a generalized form which may or may not be completely applicable to your collection. Please answer questions not applicable with "NA".

1. Person responsible for maintenance or who is most knowledgeable about the collection. If name and address on label are correct, write "OK"; if not, please correct here.

2. Formal name of collection, physical location (address), and name of institution or agency responsible for the collection.

3. This is intended to be a general categorization of samples. Please check as many boxes as are applicable to your particular collection. If collection consists of DATA ONLY, please omit items 14-17 as applicable. On the lines beside "Invertebrate" or "Vertebrate" please write in the appropriate phylum or class of organisms. If this is a seed, forage crop, core sample, etc. collection, indicate this information under item 5.

4. The scientific name is to be used for taxonomic and geological classification. If you have a prepared list of taxonomic classifications or a physical description of the collection, please staple to the form.

4.1. Standard reference used to classify the collection, i.e., Bergey's Manual of Determinative Bacteriology, Ward and Whipple's Freshwater Ecology, American Fisheries Society List of Common and Scientific Names, etc.

5. Common names associated with item 4.

6. Reasons for maintaining the collection, i.e., museum collection, geological and soil survey, chemical analyses, research standards, etc.

7. If sampling location is non-specific, write in the approximate location or region from which the samples were taken. At present, this survey only includes collections from the environs of the United States. A list of locations may be attached if available.

8. Any information you may have concerning conditions in the area sampled or information about the specimen prior to collection which may have affected the sample in any way.

9. If samples are divided into categories, please give total number of samples as well as number of samples in specific classification.

10. Dates of sampling for whole collection; not individual samples.

11. If you check "other", please indicate what this component is.

12. Where applicable, please indicate the results of analyses performed on samples (i.e., trace organic or inorganic materials, etc.)

13. Indication of methods used in selecting sampling site and in collecting actual sample.

14. Information on temporary storage conditions; particularly those which may have affected the sample chemically or physically in any way.

15.16.17. Please be as specific as possible.

18. We wish to know if any information or actual samples can be made available to outside researchers and under what conditions.

19. If you do not have space to completely answer any of the above questions, please write in the number of the question and answer here. Any additional information you feel may be helpful may be added here or additional sheets may be stapled to the form.

APPENDIX C

OAK RIDGE NATIONAL LABORATORY
OPERATED BY
UNION CARBIDE CORPORATION
NUCLEAR DIVISION

POST OFFICE BOX X
OAK RIDGE, TENNESSEE 37830

Dear Sir:

A National Environmental Specimen Banking System is being proposed to ensure that research scientists and policymakers will continue to have available a comprehensive description of, and access to, environmental specimen collections. Therefore, in cooperation with the Environmental Protection Agency, the National Bureau of Standards, and the National Science Foundation (RANN), we are performing a survey of existing specimen collections in the United States. We wish to determine where the collections are located, their content, why they were collected, and how the samples are stored. The collections identified as relevant to this banking system would be used for chemical analyses, which would provide opportunities for retrospective baseline studies of trace contaminants and environmental monitoring studies. Consequently, we are interested in collections containing materials which may be made available for this purpose.

Materials of interest include microorganisms, human and animal tissues, insects, seeds, geological material, soils and sediments, water, air, and others. We are also interested in valid, well-documented collections of data on environmental samples even if the original samples have not been retained.

The information accumulated by this survey is to be assembled into a computerized data base and examined by personnel from the aforementioned agencies and Oak Ridge National Laboratory. The survey data will be invaluable in determining the feasibility of such a National Environmental Specimen Banking System. It will help to establish protocols for future sample collection, handling, storage, and analyses by allowing comparisons of existing methods. This information would also identify the needs for augmenting existing collections.

If you or your institution have such a collection, we are requesting that you fill out the attached white postcard, check the "Yes" box, and we will contact you for additional information. If you do not have a collection, please check the "No" box. This will help us keep our records of contacts in order and prevent us from sending duplicate requests.

If you are aware of a collection held by another agency, institution, or company which you feel should be included, fill out the blue card with the name and address of a person to contact and return both cards. Please do not return the blue card unless you are indicating a collection other than your own.

Your immediate attention will certainly be appreciated--we would like to have your reply by   . If you have any questions regarding the survey or the proposed National Environmental Specimen Bank, please feel free to contact any of the following:

D. A. Becker
Analytical Chemistry Division
National Bureau of Standards
Washington, DC 20234
Telephone (301) 921-1000, Ext. 2613

G. M. Goldstein
National Environmental Research Center
Environmental Protection Agency
Research Triangle Park, NC 27711
Telephone (919) 549-8411, Ext. 2623

R. I. Van Hook
Environmental Sciences Division
Oak Ridge National Laboratory
Oak Ridge, TN 37830
Telephone (615) 483-8611, ext. 3-6977

Thank you for your help.

Sincerely yours,

R. I. Van Hook

R. I. Van Hook, Project Leader

RIVH:EH:br

Attachments

APPENDIX D

National Environmental Specimen Bank Survey Data Base

COMPONENT OF INTEREST: TRACE ELEMENTS
(SEE ALSO 116, 126, 132, 134, 185, 187, 190, 191, 193, 198, 200, 201, 202, 205, 208, 209, 216, 222, 223, 227, 229, 233, 245, 248, 271, 347, 510, 628, 645, 646, 649, 650, 652, 655, 656, 658)

<1>
G.C. McLeod
New England Aquarium; Central Wharf; Boston, MA 02110
(607) 742-8830

COLLECTION DESCRIPTION: Bacteria, marine algae, marine animals, marine bottom sediments, brackish water, and seawater samples
Data and Specimens
PURPOSE OF COLLECTION: Monitoring trace metals hazardous materials
SAMPLING LOCATION:
STATE: Massachusetts
GEOGRAPHICAL AREA: Massachusetts Bay
DATES OF SAMPLING: 1970 to present
SAMPLING METHODS: Grid method to develop baseline studies
TEMPORARY CONTAINER: Plastic bags
TEMPORARY STORAGE PROCEDURES: Freezing
DELAY BEFORE PERMANENT STORAGE: Hours
FREEZING: Cold storage
AVAILABILITY OF SAMPLES AND/OR DATA: Data available in published reports
ADDITIONAL INFORMATION: No effort made to retain all samples

<2>
Kneeland McNulty; John B. Pearce
NOAA/NMFS Middle Atlantic Coastal Fisheries Center; Highland, NJ 07732
(201) 872-0200

COLLECTION DESCRIPTION: Bacteria from frozen sediments; marine plants; marine benthic organisms; organic detritus and marine bottom sediments
Specimens Only
PURPOSE OF COLLECTION: Hold for analysis in MESA-NYB Project
SAMPLING LOCATION:
STATE: New York
GEOGRAPHICAL AREA: N.Y. Bight (Block Island to Cape May)
PRESAMPLING CONDITIONS: Parts of area polluted by domestic and industrial wastes, by aerosols, and by pollutants in land runoff.
DATES OF SAMPLING: March 1973 into future (MESA planned through FY'80)
NUMBER OF SAMPLES: In the thousands. Early planning stage
RESULTS OF ANALYSES: Heavy metals analyzed in some sediment samples
SAMPLING METHODS: Smith-McIntyre Bottom Crab
TEMPORARY STORAGE PROCEDURES: Sediments frozen; biota in buffered formalin
PERMANENT STORAGE PREPARATION: Intact Storage
STORAGE LIFE OF SAMPLE: About one year
AVAILABILITY OF SAMPLES AND/OR DATA: Depends on circumstances

<3>
Richard L. Lapan, Jr.
National Marine Water Quality Laboratory; S.Ferry Rd.; Narragansett, RI 02882
(401) 789-0825

COLLECTION DESCRIPTION: Marine vertebrates and invertebrates; estuarine and marine bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: Body burden trace element analysis
SAMPLING LOCATION:
STATE: Rhode Island
GEOGRAPHICAL AREA: Primarily Narragansett Bay, R.I.
DATES OF SAMPLING: May 1968 to present
SAMPLING METHODS: Anchor Dredge; Gravity Corer
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -20 degrees C
HIGH TEMPERATURE ASHING: + 425 degrees C
LYPHYLIZATION: Yes
DRYING: Yes
PERMANENT STORAGE CONDITIONS:
CONTAINER: Polyethylene
TEMPERATURE: Room temperature

<4>
Harmon P. Weeks, Jr.
Dept. of Forestry & Conservation; Purdue University; Lafayette, IN 47907
(317) 493-1925

COLLECTION DESCRIPTION: Terrestrial fungi normally eaten by mammals; adrenal and parotid gland tissue of deer, marmots, arborial squirrels, and gray fox; soils
Data and Specimens
SCIENTIFIC NAME: Animals: Odocoileus virginiana; Marmota monal; Sciurus; Urocyon cinereoarcenitrus
PURPOSE OF COLLECTION: Plants: Nutrient and digestibility analysis; Animals: analyzation of condition and mineral status
SAMPLING LOCATION:
COUNTY: Martin
STATE: Indiana
GEOGRAPHICAL AREA: Crane Naval Ammunition Depot
PRESAMPLING CONDITIONS: No cultivation since 1945
DATES OF SAMPLING: Jan. 1970 to Jan. 1973
NUMBER OF SAMPLES: Animal: 600; Plant: 3000
SAMPLING METHODS: Animals: necropsy after accident or gun killing; Plants: stratified random sampling; collected by hand, dried, ground.
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Forced air oven at 80 degrees C (plants)
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plants: heat-sealed polyethylene bags; Animals: glass
TEMPERATURE: Room temperature
LIGHT EXPOSURE: None for plants
STORAGE MEDIA: 10% formalin for animals
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Probably available in 1977
ADDITIONAL INFORMATION: Na and K content determined for plants; zonation and weights for animal adrenals

<5>

COMPONENT OF INTEREST: TRACE ELEMENTS

<5>
C.C. Gordon
Dept. of Botany;University of Montana;Missoula, MT 59801
(406) 243-2671

COLLECTION DESCRIPTION: Aquatic and terrestrial spermatophytes; carnivores, herbivores, fish and insects; Soil and river bottom sediment samples; Rainwater samples
Data and Specimens
PURPOSE OF COLLECTION: Chemical analysis, future reference
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States; W. Germany; Canada
PRESAMPLING CONDITIONS: Samples were collected near coal fired steam plants, non-ferrous smelters, aluminum reduction plants, phosphate plants, oil refineries, kraft pulp mills, brick factories, and locations away from them
DATES OF SAMPLING: 1968 to present
NUMBER OF SAMPLES: Approx. 5000
RESULTS OF ANALYSES: Fluoride on almost all; sulfur on about 1/5; trace elements on very few; tissue pathology
SAMPLING METHODS: Trapping ans shooting animals; selecting foliar tissue from plants; cores for soils; screens, nets and aspirators for insects
TEMPORARY CONTAINER: Plastic bags and vials
DELAY BEFORE PERMANENT STORAGE: 1-7 days
PERMANENT STORAGE PREPARATION: Homogenization
DRYING: 32.2 degrees C
OTHER: Homogenized in a Wiley Mill
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic screw-cap vial
TEMPERATURE: Ambient
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE MEDIA: Air not in contact with actual sample
AVAILABILITY OF SAMPLES AND/OR DATA: Limited, unless willing to pay for handling materials for shipping
ADDITIONAL INFORMATION: Conifer needles with tissue pathology caused by various phytotoxic gases (ie. SO_2, H_2S, organic sulfurs, HF, NO_x, Cl and O_3). Histological microscope slides: approximately 25, 000

<6>
Jacob Sedlet
OHS Division;Argonne National Laboratory;9700 South Cass Avenue;Argonne, IL 60439
(312) 739-7711, ext. 3311

COLLECTION DESCRIPTION: Grasses; freshwater fish; soils and lake and river bottom sediments; water samples from freshwater lakes, groundwater, and rivers; air particulates; precipitation
Data and Specimens
PURPOSE OF COLLECTION: Radioactivity measurements
SAMPLING LOCATION:
CITY: Argonne
STATE: Illinois
DATES OF SAMPLING: 1948 to present
NUMBER OF SAMPLES: Several hundred
TEMPORARY CONTAINER: Glass containers for water, soil, plants. Fish in alcohol
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Water 1N HNO_3
PERMANENT STORAGE CONDITIONS: Same as temporary storage
AVAILABILITY OF SAMPLES AND/OR DATA: Some of each type would be available, depending on purpose
ADDITIONAL INFORMATION: The samples have been analyzed for radionuclide content, and the results have been published. Approx. 10% of the samples collected have been retained

<7>
Don Tuohy
Nevada State Museum;600 N. Carson St.;Carson City, NV 89701
(702) 885-4810; (702) 885-4811; (702) 885-4812; (702) 885-5393

COLLECTION DESCRIPTION: Aquatic and terrestrial plants; Aquatic and terrestrial vertebrates and invertebrates; crustal materials; mummified human tissues, bones; hair, and teeth
Data and Specimens
PURPOSE OF COLLECTION: Museum collections of ancillary archaeological materials; Biology also has its own collections of plants and animals
SAMPLING LOCATION:
STATE: Nevada; California
GEOGRAPHICAL AREA: Eastern Sierra Nevada Mtns.; Western Great Basin
PRESAMPLING CONDITIONS: Non-fossilized materials may date back to 6000 B.C. or may be as recent as the 19th century. Most of the ancillary materials were collected under controlled circumstances in archeological excavations.
DATES OF SAMPLING: 1920 - 1974, some 19th Century collections
NUMBER OF SAMPLES: Approx. 10, 000
RESULTS OF ANALYSES: Earliest site in North America; Trace element studies on cave strata.
SAMPLING METHODS: Controlled archaeological samples
TEMPORARY CONTAINER: Aluminum foil; glass bottles; paper bags; card board boxes; plywood boxes; plastic bags
TEMPORARY STORAGE PROCEDURES: Some may have been affected by dust in the atmosphere; others have been sealed; Some paradichlorobenzene in with botanical and zoological specimens
PERMANENT STORAGE PREPARATION: Intact Storage
RADIATION: Probably Nevada Test Site
FUMIGATION: Paradichlorobenzene
DRYING: Natural mummification of human and animal tissues
PERMANENT STORAGE CONDITIONS:
CONTAINER: Cardboard boxes
HUMIDITY: None, but stable in basement environment
LIGHT EXPOSURE: Only for specimens on display
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Nothing has been thrown away since 1941
AVAILABILITY OF SAMPLES AND/OR DATA: Statement of problem, and copy of published or unpublished results.
ADDITIONAL INFORMATION: The Nevada State Museum built a new annex in 1971; All collections were placed in temporary storage. When returned, the collections were in need of reorganization. This reorganization is still in progress, so it does take time to locate particular collection and particular specimens.

COMPONENT OF INTEREST: TRACE ELEMENTS

<8>
John S. Bradshaw
Environmental Studies Laboratory;University of San Diego;Alcala Park;San Diego, CA 92110
(714) 291-1766

COLLECTION DESCRIPTION: Aquatic and marine algae; aquatic and marine fish (Pisces); all marine invertebrates; marine and estuarine bottom sediments; brackish water and estuarine and coastal seawater samples
Data and Specimens
PURPOSE OF COLLECTION: Taxonomic reference and museum collection
SAMPLING LOCATION:
CITY: San Diego
COUNTY: San Diego
STATE: California
GEOGRAPHICAL AREA: Southern California
PRESAMPLING CONDITIONS: Natural populations; data on environment on file
DATES OF SAMPLING: July 24, 1972 to present
NUMBER OF SAMPLES: Over 100
RESULTS OF ANALYSES: Sediment and organic remains of organisms
SAMPLING METHODS: Orange peel grab, trawl, and by hand
DELAY BEFORE PERMANENT STORAGE: Immediate storage after initial screening (Nylon screen)
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formaldehyde; 10% formalin, technical grade
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass or nalgene jars
TEMPERATURE: None
STORAGE LIFE OF SAMPLE: Considerable to indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Both available

<9>
Richard B. Forbes
Portland State University;P.O. Box 731; Portland, OR 97207
(503) 229-4200 or -3851

COLLECTION DESCRIPTION: Complete aquatic, marine, and terrestrial herbarium; mammals, fish, birds, reptiles, amphibians, and most invertebrate phyla
Data and Specimens
PURPOSE OF COLLECTION: Teaching, research and museum collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Northwestern United States
PRESAMPLING CONDITIONS: Diverse
DATES OF SAMPLING: Early 1900's to present
NUMBER OF SAMPLES: Approx. 10, 000 specimens
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 70% ethanol or 5% formalin for wet specimens
FUMIGATION: Skins with CS2; kept with paradichlorbenzene
PERMANENT STORAGE CONDITIONS:
CONTAINER: Lane biological specimen cabinets for skins and dry plants
TEMPERATURE: Room temperature
HUMIDITY: Room control
LIGHT EXPOSURE: no light in cases; wet specimens in fluorescent light
STORAGE MEDIA: air
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and data on request, provided facilities are available for their proper care
ADDITIONAL INFORMATION: Some mammal skins from pre-1940 were shorn to assess lead content of hair

<10>
Min Koide
Geological Res. Div.; Scripps Institute of Oceanography; La Jolla, CA 92037
(714) 452-2108

COLLECTION DESCRIPTION: Soils; lake, estuarine, and marine bottom sediments; estuarine, coastal, and marine seawater; air samples

<11>
Donald B. Porcella
UMC 82; Utah Water Research Lab.; Utah State University; Logan, UT 84322
(801) 752-4100 ext. 7821

FORMAL NAME OF COLLECTION: Utah Water Research Laboratory
COLLECTION DESCRIPTION: Lake bottom sediments and water samples with bacteria and algae for bioassay
Data and Specimens
PURPOSE OF COLLECTION: Data collection; Bioassay
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Intermountain West;Western United States
DATES OF SAMPLING: 1960 to present
RESULTS OF ANALYSES: Inorganic nutrients; BOD(5); Trace nutrients;Trace organics; Biostimulation-toxicity; Growth rates; Nitrogen fixation
SAMPLING METHODS: Grab samples, soil cores, sediment dredge, in situ nitrogen (C2H2) fixation
TEMPORARY CONTAINER: Borosilicate, Glass, Polyethylene bottles, Plastic bags (Whirlpack)
TEMPORARY STORAGE PROCEDURES: Refrigeration, freezing, drying
DELAY BEFORE PERMANENT STORAGE: 7 days to 1 yr.
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -10 degrees C
LYPHYLIZATION: Equipment available-no samples prepared yet
DRYING: Air dry
AVAILABILITY OF SAMPLES AND/OR DATA: UWR periodic publications and journal reprints available

<12>
Naman E. Otto
U.S. Bureau of Reclamation; Division of General Research; Bldg 56 Denver Federal Center; Denver, CO 80225
(303) 234-4288

COLLECTION DESCRIPTION: Aquatic algae; aquatic invertebrates; river bottom sediments; river water samples
Data Collection Only
PURPOSE OF COLLECTION: Ecological Study of canal environments and plant-animal population; management of aquatic plant pests; pesticides monitoring
SAMPLING LOCATION:
STATE: Colorado; California; Washington; Wyoming; Nebraska
PRESAMPLING CONDITIONS: Operational water distribution systems for irrigation and potable-industrial purposes
DATES OF SAMPLING: 1960 through 1974 periodic - summer season (irrigation period) mainly
NUMBER OF SAMPLES: Numerous replications and studies
RESULTS OF ANALYSES: Water; hydrosoil; diatoms; macroinvertebrates
SAMPLING METHODS: Grab sampling - integrated sampling-soils-waters, substrate sampling for algae-macroinveterbrates

<13>

COMPONENT OF INTEREST: TRACE ELEMENTS

<13>
Loren D. Potter
Biology Dept.; University of New Mexico;
Albuquerque, NM 87131
(505) 277-3517

COLLECTION DESCRIPTION: Terrestrial algae, freshwater fish and plankton, river and lake bottom sediments, and river and eutrophic lake water samples for heavy metal analysis
Data Collection Only
PURPOSE OF COLLECTION: Heavy metal analysis
SAMPLING LOCATION:
    STATE: Colorado
    GEOGRAPHICAL AREA: Upper Colo. R. basin mouth of major tributaries to Colo. R. and Colo. R. from Grand Junction Colo. to lower end of Lake Powell; Colorado River
NUMBER OF SAMPLES: 3 times per year; 23 water; 15 sediments; 5 plankton; 2 soil; 18 plants; 15 fish
SAMPLING METHODS: Kemmerrer bottles; bottom dredges; plankton net; fishnet
TEMPORARY CONTAINER: Plastic sterile twirl bags
TEMPORARY STORAGE PROCEDURES: Freeze
DELAY BEFORE PERMANENT STORAGE: Few hours
PERMANENT STORAGE PREPARATION: Intact Storage
    FREEZING: -5 degrees C
    DRYING: Plants
PERMANENT STORAGE CONDITIONS: No permanent storage
ADDITIONAL INFORMATION: Analysis by atomic absorption, Perkin Ellner flame, and graphite rod.

<14>
Robert A. Freeman
Dept. of Fishery and Wildlife;Colorado State University;Fort Collins, CO 80521
(303) 491-5089

FORMAL NAME OF COLLECTION: Buckeye Lake Study, Colorado Division of Wildlife, 317 W. Prospect St., Ft. Collins, CO
COLLECTION DESCRIPTION: Aquatic algae; Zooplankton; Lake bottom sediment and soil samples; Water samples from groundwater and eutrophic lakes; Precipitation
Data and Specimens
SAMPLING LOCATION:
    CITY: Climax; Leadville
    COUNTY: Lake
    STATE: Colorado
    GEOGRAPHICAL AREA: Buckeye Lake;Alpine Lake
PRESAMPLING CONDITIONS: Experimental cloud seeding area
DATES OF SAMPLING: Jan. 1973 - Aug. 1974
NUMBER OF SAMPLES: 200 water, fewer others (sediment, soil, plants)
RESULTS OF ANALYSES: PPb and PPm range/silver
DELAY BEFORE PERMANENT STORAGE: Months
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Acid on water, 1 ml conc. HNO3 per liter
    DRYING: 90 degrees C
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Poly
STORAGE LIFE OF SAMPLE: Indefinite
ADDITIONAL INFORMATION: This collection will be disposed of about Jan. 1975. If interested contact by then.

<15>
Owen T. Lind
Director, Environmental Studies; Baylor University; Waco, TX 76703
(817) 755-3406

COLLECTION DESCRIPTION: Tracheophytes; Freshwater fish and arthropods; Air particulate samples; Water samples from rivers and eutrophic lakes
Data and Specimens
PURPOSE OF COLLECTION: Museum collections and research
SAMPLING LOCATION:
    STATE: Texas
DATES OF SAMPLING: 1967 to present
SAMPLING METHODS: Vertebrates and invertebrates by nets, seines, hand picking. Water by standard samples
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Formalin, alcohol
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass bottles
    STORAGE MEDIA: Formaldehyde
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Data only, on water samples

<16>
Tom E. Clevenger
Environmental Trace Substances Research Center; University of Missouri; Route 3; Columbia, MO 65201
(314) 445-8596

COLLECTION DESCRIPTION: Plant material, organic detritus, air particulates, aquatic life, and water
Data and Specimens
PURPOSE OF COLLECTION: Trace element analysis
SAMPLING LOCATION:
    STATE: Missouri
ADDITIONAL INFORMATION: Analyzed for lead, cadmium, copper, and zinc

COMPONENT OF INTEREST: TRACE ELEMENTS

<17>
Robert H. Parker
Coastal Ecosystems Management, Inc.; 3600 Hulen Street; Fort Worth, TX 76107
(817) 731-1727

COLLECTION DESCRIPTION: Aquatic and terrestrial spermatophytes; aquatic and marine vertebrates and invertebrates; river, estuarine, and marine bottom sediments; river and estuarine water samples
Data and Specimens
PURPOSE OF COLLECTION: Baseline data and material for ecosystems assessment and inventory
SAMPLING LOCATION:
CITY: Anahuac; Corpus Christi; Rock Springs; Port Lavaca
COUNTY: Chambers; Nueces; Real; Edwards; Calhoun
STATE: Texas
GEOGRAPHICAL AREA: Trinity Bay; Padre Island; Edwards Plateau; Lavaca Bay
PRESAMPLING CONDITIONS: Data for Trinity Bay, Padre Island, and Lavaca Bay go back at least 25 years
DATES OF SAMPLING: 20 August 1970 to 20 August 1974 before drastic disturbances
NUMBER OF SAMPLES: 450 to 1,000
SAMPLING METHODS: Trawls, grabs, cores, plankton nets
TEMPORARY CONTAINER: Glass and nalgene plastic
TEMPORARY STORAGE PROCEDURES: Fix in 5% Formalin, store in 50%-70% ethanol (denatured)
DELAY BEFORE PERMANENT STORAGE: Indefinite
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Mothballs for plants
DRYING: Plants in press
PERMANENT STORAGE CONDITIONS:
CONTAINER: Cabinets of steel for plants; wood and formica for animals
TEMPERATURE: Air-conditioned at 23 degree C
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE MEDIA: 50%-60% alcohol, denatured ethanol
AVAILABILITY OF SAMPLES AND/OR DATA: All material is available
ADDITIONAL INFORMATION: Biological collections, accurately located and with full physical-chemical station data, were made at all trophic levels for a series of baseline ecosystem studies. They were made before drastic disturbances had occurred, and were taken in most of the estuaries along the Texas coast, and over 20,000 acres of rangeland in southwest Texas.

<18>
W. Harold Reese
Dept. of Biology;Wayland College;Plainview, TX 79072
(806) 296-5521, ext. 43; Home (806) 293-2808

COLLECTION DESCRIPTION: Algae, fungi and spermatophytes; aquatic, marine and terrestrial vertebrates and invertebrates; organic detritus; bottom sediments from lakes and streams; water samples from rivers, streams and eutrophic and oligotrophic lakes; insolation data
Data and Specimens
PURPOSE OF COLLECTION: Baseline studies for comparison with degraded systems
NUMBER OF SAMPLES: Numerous
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: Freezing
CHEMICAL STABILIZATION: Formalin, FAA, PDB, and others.
ADDITIONAL INFORMATION: All marine invertebrates in 4% formalin; vascular plants dried in metal herbarium cabinets; Vertebrates: 1. injected with formalin and stored in same; 2. skins & skulls dried in metal mammal cases; 3. Live maintained in adequate animal houses (only albino peromyscus colony known). Bacteria, algae, fungi: maintained in culture. Water: continued monitoring of primary production, turbidity, nitrates, phosphates, etc. Work relative to water quality and pollution abatement.

<19>
Thomas D. Wright
Dept. of Biological Sciences; Michigan Technological University; Houghton, MI 49931
(906) 487-2028

COLLECTION DESCRIPTION: Aquatic and terrestrial algae, lichens; aquatic vertebrates and invertebrates; human hair; bedrock; lake and river bottom sediments; water samples from rivers and oligotrophic lakes
Data and Specimens
PURPOSE OF COLLECTION: Surveys, environmental impact statement, research, mining, class use
SAMPLING LOCATION:
STATE: Michigan
GEOGRAPHICAL AREA: Upper peninsula of Michigan; Lake Superior
DATES OF SAMPLING: 1950 to present
TEMPORARY CONTAINER: Plastic
TEMPORARY STORAGE PROCEDURES: Freezing or drying
DELAY BEFORE PERMANENT STORAGE: Several hours to several weeks
PERMANENT STORAGE PREPARATION: Intact Storage; Fractionated
FREEZING: -20 degrees C
DRYING: air dry on botanical material
PERMANENT STORAGE CONDITIONS:
CONTAINER: plastic or glass
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE MEDIA: air, alcohol, or formalin
STORAGE LIFE OF SAMPLE: Until storage capacity is needed
AVAILABILITY OF SAMPLES AND/OR DATA: available upon request
ADDITIONAL INFORMATION: We are certainly discarding material of definite value, i.e., sediments, organisms, water from Lake Superior because we do not have adequate storage space. Routine operation provide "back-up" samples in cases of loss or questionable analysis. For example, by 1 Jan. 75 we will have on storage 450 samples of Lake Superior sediment which will be analyzed only for TKN, TP, ZN, CU, COD, and particle size. After that they will be discarded unless some outside agency is interested in cooperative work. This is a shame but we cannot store material indefinitely and do not have funding for further analyzes. This is important because baseline data on Lake Superior is very poor and such collections are not likely to be repeated in the near future.

<20>

COMPONENT OF INTEREST: TRACE ELEMENTS

<20>
Henry A. Schroeder , A.P Nason
Trace Element Laboratory;9 Belmont Ave.;Brattleboro, VT 05301
(802) 254-9637

COLLECTION DESCRIPTION: Terrestrial vertebrates, wild and laboratory animals; fungi and bryophytes; human hair; river bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: Trace element content
DATES OF SAMPLING: 1958 to 1974
NUMBER OF SAMPLES: Approx. 5,000 samples; data on 50,000
RESULTS OF ANALYSES: Animal organs, foods raw and processed
HIGH TEMPERATURE ASHING: 800 degrees C
CHEMICAL STABILIZATION: HNO3 2 to 4%, distilled
DRYING: 110 degrees C 24 hours
PERMANENT STORAGE CONDITIONS:
CONTAINER: Polyethylene bottles
TEMPERATURE: Ambient
LIGHT EXPOSURE: Room lighting
STORAGE LIFE OF SAMPLE: Up to 10 years, though will be disposed of by January 1976.
AVAILABILITY OF SAMPLES AND/OR DATA: First come first served
ADDITIONAL INFORMATION: The collection must be disposed of before 1st Jan. 1976 as Dr. Schroeder does not plan to continue his research program

<21>
Rolf Hartung
Dept. of Environmental & Industrial;Health;School of Public Health;University of Michigan;Ann Arbor, MI 48104
(313) 764-5430

COLLECTION DESCRIPTION: Data on distribution of Hg, Cd, Pb, Cr, Mn, As in water, sediments and biota of lower Mississippi River
Data Collection Only
PURPOSE OF COLLECTION: Chemical analysis
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Lower Mississippi - Stream mile 280 - Delta (Southwest Pass)
DATES OF SAMPLING: Nov. 1970 - Feb. 1972
NUMBER OF SAMPLES: Approx. 500
TEMPORARY CONTAINER: Acid washed polyethylene jars
TEMPORARY STORAGE PROCEDURES: Frozen on dry ice in field
DELAY BEFORE PERMANENT STORAGE: Same container used for field and permanent storage
PERMANENT STORAGE PREPARATION: Intact Storage; Fractionated
FREEZING: -23 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Acid washed polyethylene jars
TEMPERATURE: -23 degrees C
HUMIDITY: None
LIGHT EXPOSURE: Dark
STORAGE LIFE OF SAMPLE: Not known, but not unlimited
AVAILABILITY OF SAMPLES AND/OR DATA: Unrestricted, must pay cost of handling and shipping

<22>
Donald D. Adams
Dept. of Oceanography;Old Dominion University;Norfolk, VA 23508
(804) 489-6477

COLLECTION DESCRIPTION: Water and sediment samples from sewage discharges
Data Collection Only
PURPOSE OF COLLECTION: Assessment of the extent of eutrophication of estuarine waters through sewage discharges
SAMPLING LOCATION:
CITY: Norfolk
STATE: Virginia
DATES OF SAMPLING: June 1973 to present
NUMBER OF SAMPLES: 830 different parameter measurements each month
RESULTS OF ANALYSES: Water samples measured for salinity, temperature, O2, plant nutrients, BOD, chlorine, fecal coliform, chlorophylls, and trace metals
SAMPLING METHODS: NIO and Niskin water samplers, plastic bucket
TEMPORARY CONTAINER: Polyethylene
TEMPORARY STORAGE PROCEDURES: Outlined in Standard Methods and in Strickland and Parsons "A Practical Handbook of Sea Water Analysis"
DELAY BEFORE PERMANENT STORAGE: The sample is filtered and frozen for later analyses. Some analyses conducted immediately
PERMANENT STORAGE PREPARATION: Fractionated
CHEMICAL STABILIZATION: For trace metals, use acid to lower pH; for chlorophyll, use filter and place in acetone
AVAILABILITY OF SAMPLES AND/OR DATA: Data available

COMPONENT OF INTEREST: TRACE ELEMENTS

<23>
John B. Pearce
U.S. Dept. of Commerce; NOAA; National Marine
Fisheries Serv., MACFC; Sandy Hook Marine Lab.;
Highlands, NJ 07732
(201) 872-0200, ext. 55, 59

FORMAL NAME OF COLLECTION: Ecosystems Investigations
COLLECTION DESCRIPTION: Marine zooplankton and algae; finfish; benthic invertebrates; marine bottom sediments; Estuarine, coastal and marine seawater samples
Data and Specimens
PURPOSE OF COLLECTION: Samples taken as part of baseline benthic ecology and Zooplankton studies in Middle Atlantic Bight.
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Middle Atlantic Bight; Long Island Sound; Raritan Bay; United States
PRESAMPLING CONDITIONS: Little known in regard to benthic fauna, body burden of contaminants (heavy metals, etc.)
DATES OF SAMPLING: Quarterly since 1968; more frequent in specific areas
NUMBER OF SAMPLES: Several thousand; intact animals, tissues, sediments
SAMPLING METHODS: Benthic grab samples; plankton nets.
TEMPORARY CONTAINER: Glass, with organisms preserved in formalin, ethanol or frozen; sediments in plastic coring tubes.
DELAY BEFORE PERMANENT STORAGE: Specimens stored permanently in glass or plastic coring tubes.
PERMANENT STORAGE PREPARATION: Intact Storage
    FREEZING: - 20 degrees C
    CHEMICAL STABILIZATION: Formalin and/or ethanol with added glycerol.
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass bottles or plastic coring tubes
    TEMPERATURE: Room temperature
    STORAGE MEDIA: Formalin and/or ethanol 70%
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available upon request with reasonable justification
ADDITIONAL INFORMATION: Benthic and finfish samples taken by grab and trawl; sediment aliquots removed for contaminant, microbiological and standard geological analyses. Selected intact organisms or tissues frozen for further chemical analyses; all sediments frozen for analyses. Other biological materials are fixed in formalin, preserved in 70% ethanol with 5% glycerol. Samples (chemically preserved or frozen) held in SHL, MACFC museum until analyses are completed. Certain samples to be held indefinite period anticipating that future contaminants will be "discovered"; these stored samples will then provide an historical baseline.

<24>
F. Lowman; M.J. Canopy
Dept. of Marine Biology, Radioecology;Puerto Rico
Nuclear Ctr.; University of Puerto Rico; College
Station;Mayaguez, PR 00708
(809) 832-4040, ext. 25, 26, 27

COLLECTION DESCRIPTION: Marine algae; marine and terrestrial vertebrates and invertebrates; estuarine and marine bottom sediments; water; air particulates; precipitation
Data and Specimens
PURPOSE OF COLLECTION: Base line studies; identification
SAMPLING LOCATION:
    CITY: Mayaguez
    STATE: Puerto Rico
DATES OF SAMPLING: 10 years
TEMPORARY CONTAINER: Plastic; Glass
PERMANENT STORAGE PREPARATION: Intact Storage
    FREEZING: -5 degrees C
    LOW TEMPERATURE ASHING: 60 degrees C
    HIGH TEMPERATURE ASHING: 550 degrees C
    LYPHYLIZATION: Yes
PERMANENT STORAGE CONDITIONS:
    TEMPERATURE: 24 degrees C plus or minus 2 degrees
    HUMIDITY: 70%
    LIGHT EXPOSURE: Dark
    STORAGE MEDIA: Air or formaldehyde and alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Some on request

<25>
B.L. Turner
Herbarium BIO 311, University of Texas; Austin,
TX 78712
(512) 471-5262

COLLECTION DESCRIPTION: Extensive plant collections
Data and Specimens
SCIENTIFIC NAME: Approx. 125,000 species represented
PURPOSE OF COLLECTION: Investigate relationships and geographic occurrence of the cryptogams and phanerogams of the world.
SAMPLING LOCATION:
    STATE: Texas
    GEOGRAPHICAL AREA: Worldwide; Mexico; Southwest United States
DATES OF SAMPLING: 1830-1978
NUMBER OF SAMPLES: 650,000
TEMPORARY CONTAINER: Pasteboard
DELAY BEFORE PERMANENT STORAGE: 1 week to 10 years
PERMANENT STORAGE PREPARATION: Intact Storage
    FUMIGATION: Paradichlorobenzene at 50 grams per 25 cubic feet per month
    DRYING: Standard procedure
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Steel
    TEMPERATURE: 21-26.6 degrees C
    HUMIDITY: 25-50%
    LIGHT EXPOSURE: Short periods
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: 350 years if protected from insects
AVAILABILITY OF SAMPLES AND/OR DATA: Open to bonafide scientific investigators with application to the director.

<26>

COMPONENT OF INTEREST: TRACE ELEMENTS

<26>
W.A. Thompson
Environmental Sciences; Dow Chemical USA;Rocky Flats Division;P.O. Box 888;Golden, CO 80401
(303) 494-3311, ext. 4038

COLLECTION DESCRIPTION: Terrestrial plants; soil samples
Data and Specimens
PURPOSE OF COLLECTION: Herbarium - Botanical inventory for ecosystem studies.
Soils-Historical reference
SAMPLING LOCATION:
COUNTY: Jefferson; Boulder
STATE: Colorado
GEOGRAPHICAL AREA: U.S. AEC Rocky Flats plant
DATES OF SAMPLING: Herbarium, 1973; Soil, 1969-1974
NUMBER OF SAMPLES: Complete botanical collection; 700 soil samples
RESULTS OF ANALYSES: Eastern Colorado soil, plutonium concentrations ranging from 0.01 pCi/gram to 2000 pCi/gram
SAMPLING METHODS: 1968 - 1971, spoon excavation; 1972-1974, vertical-wall sampling tool excavation. 10x10 cm x 5 cm deep.
TEMPORARY CONTAINER: Herbarium: samples mounted on herbarium sheets in cardboard boxes; soils: metal cans
TEMPORARY STORAGE PROCEDURES: Herbarium: samples dried and mounted; soils: samples sieved, pulverized and homogenized
DELAY BEFORE PERMANENT STORAGE: Herbarium: 3 months; soils: permanent cans.
PERMANENT STORAGE PREPARATION: Homogenization
DRYING: Standard herbarium preparation; soil dried at 105 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Steel herbarium case, vermin-proof, airtight. Steel cans for dried soils
TEMPERATURE: Ambient room air temperature
HUMIDITY: Ambient
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Herbarium for plant taxonomy and inventory use only-no samples; soils: samples and data available
ADDITIONAL INFORMATION: Rocky Flats Soil Bank: R.P. Gunning, Custodian, Dow Chemical U.S.A., P.O. Box 888, Golden, CO 80401; Rocky Falts Botanical Inventory, W.A. Weber, Taxonomist, University of Colorado, Boulder, CO 80302. Collections at University of Colorado, Colorado State Univ., and Dow Chemical U.S.A. Rocky Flats Plant

<27>
Stanley L. Welsh
Dept. of Botany; Brigham Young University; Provo, UT 84602
(801) 374-1211, ext. 2289

Data and Specimens
PURPOSE OF COLLECTION: Research and reference
SAMPLING LOCATION:
STATE: Utah
GEOGRAPHICAL AREA: North America; Worldwide
DATES OF SAMPLING: 1880 to present
NUMBER OF SAMPLES: 120,000 plants
TEMPORARY STORAGE PROCEDURES: Mounted on paper
PERMANENT STORAGE CONDITIONS:
CONTAINER: Steel herbarium cases
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Cases closed
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Specimens are generally collected near transportation systems

<28>
Charles Feddema
Dept. of Agriculture; Rocky Mtn. Forest and Range Exp. Sta.; 240 W. Prospect; Ft. Collins, CO 80521
(303) 482-7332

COLLECTION DESCRIPTION: Terrestrial plants including bryophytes, pteridophytes and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Reference and voucher specimens for forest research and management
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Western ranges and forests; National forests elsewhere; United States
DATES OF SAMPLING: 1910 to present
NUMBER OF SAMPLES: 150,000
TEMPORARY STORAGE PROCEDURES: Dried, pressed, mounted
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Biochloride of mercury
DRYING: Dried
PERMANENT STORAGE CONDITIONS:
CONTAINER: Steel herbarium cabinets
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Limited
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available to qualified scientists

<29>
R. R. Steward
Aquatic Weed Research Lab;USDA ARS; P.O. Box 9087;3205 S.W. 70th Ave.;Fort Lauderdale, FL 33314
(305) 583-5541

COLLECTION DESCRIPTION: Aquatic plants; soils; eutrophic and oligotrophic lake and river water samples
Data Collection Only
SAMPLING LOCATION:
COUNTY: Dade
STATE: Florida
GEOGRAPHICAL AREA: Florida Everglades
DATES OF SAMPLING: Monthly, for one year
RESULTS OF ANALYSES: Plant inorganic macro and micro nutrients
SAMPLING METHODS: Random selection; Quadrat or grab samples
AVAILABILITY OF SAMPLES AND/OR DATA: Data published, raw data available at location, some samples maybe useable
PUBLICATIONS: Assessing the capability of Everglades Marsh Environment for Renovating Wastewater, PB-231 652/AS, NTIS

COMPONENT OF INTEREST: TRACE ELEMENTS

<30>
John H. Martin
Moss Landing Marine Laboratory; Moss Landing, CA 95039
(408) 633-3304

COLLECTION DESCRIPTION: Marine algae; Marine zooplankton
Data and Specimens
PURPOSE OF COLLECTION: Elemental analyses
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Monterrey Bay;Northeast Pacific Ocean
DATES OF SAMPLING: 1971
NUMBER OF SAMPLES: Approx. 10
SAMPLING METHODS: Phytoplankton and zooplankton nets.
TEMPORARY CONTAINER: Plastic vials.
TEMPORARY STORAGE PROCEDURES: Freezing
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: 70 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic vials, dried
TEMPERATURE: Room Temperature
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Data and samples (limited amount) available

<31>
Jack S. States
Dept. of Biology; Northern Arizona University; Flagstaff, AZ 86001
(602) 523-2857

FORMAL NAME OF COLLECTION: Mycological Collection, Cryptogamic Section, Deaver Herbarium
COLLECTION DESCRIPTION: Microfungi from hot and cool desert soil, seleniferous soils
Data and Specimens
PURPOSE OF COLLECTION: Reference collection
SAMPLING LOCATION:
STATE: Wyoming; Utah; Arizona
GEOGRAPHICAL AREA: Deserts; Grasslands; Sagebrush; Forests
DATES OF SAMPLING: Summer 1966 to Sept. 1974
NUMBER OF SAMPLES: 82 genera
RESULTS OF ANALYSES: Individual isolates in soil samples
SAMPLING METHODS: Line transect through homogeneous plant communities and nested quadrats for soil samples containing fungal specimens. Cores (5) of soil to 10 cm depth in each sample, 10 samples/site.
TEMPORARY CONTAINER: Sterile, plastic "Whirl-Pac" bags for soil samples.
TEMPORARY STORAGE PROCEDURES: Refrigeration
PERMANENT STORAGE PREPARATION: Intact Storage
LYOPHILIZATION: Specimens now being stored in lyophil tubes
PERMANENT STORAGE CONDITIONS:
CONTAINER: Specimens maintained live
TEMPERATURE: 10 degrees C
STORAGE MEDIA: Potato-dextrose agar
STORAGE LIFE OF SAMPLE: Specimens transferred every six months
AVAILABILITY OF SAMPLES AND/OR DATA: Available upon request, nominal service charge for live specimens
ADDITIONAL INFORMATION: Data and data analysis of microfungi in soils made for environmental impact assessments; response to presence of heavy metals, inorganic and organic amendments to soils and role in decomposition and water repellency in soil. Species list available

<32>
Donald B. Lawrence
Dept. of Botany; Biological Science Center, University of Minnesota; St. Paul, MN 55101
(612) 373-2211; (612) 723-8235

FORMAL NAME OF COLLECTION: Powdered Dry Plant Tissue, Cedar Creek Natural History Area Lab., Anoka Co., Bethel, MN 55005
COLLECTION DESCRIPTION: Powdered, dry, aquatic, and terrestrial embryophyte tissue
Specimens Only
PURPOSE OF COLLECTION: Ecosystem Studies
SAMPLING LOCATION:
CITY: Bethel
COUNTY: Anoka
STATE: Minnesota
GEOGRAPHICAL AREA: Forests; Savannas; Grasslands; Marsh; Corn Fields
PRESAMPLING CONDITIONS: Relatively undisturbed except for radioactive fallout prior to 1959
DATES OF SAMPLING: 1958 to 1959
NUMBER OF SAMPLES: Several hundred
SAMPLING METHODS: Clippers and collection screens
PERMANENT STORAGE PREPARATION: Data and Specimens
DRYING: 60 to 110 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Aluminum cans
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Yes, with adequate notice
PUBLICATIONS: Ovington, J.D., Dale Heitkamp, and Donald B. Lawrence; Plant Biomass and Productivity of Prairie, Savanna, Oakwood and Maize Field Ecosystems in Central Minnesota. Ecology 44:1, Winter 1963.; Ovington, J.D. and D.B. Lawrence; Comparative Chlorophyll and Energy Studies of Prairie, Savanna, Oakwood, and Maize Field Ecosystems. Ecology 48:4, Summer 1967.
ADDITIONAL INFORMATION: Publication reprints available

<33>
Robert C. Melchior
Dept. of Geology; Bemidji State College; Bemidji, MN 56601
(218) 755-2920

COLLECTION DESCRIPTION: Aquatic and terrestrial bryophytes, tracheophytes, and pteridophytes; lake bottom sediments; water samples from eutrophic and dystrophic lakes
Data and Specimens
PURPOSE OF COLLECTION: Teaching collection
SAMPLING LOCATION:
CITY: Bemidji, MN
COUNTY: Beltrami, MN
STATE: Minnesota; North Dakota
DATES OF SAMPLING: 1965 to present
NUMBER OF SAMPLES: Approx. 75 Genera
SAMPLING METHODS: Standard botanical technique
TEMPORARY CONTAINER: Plastic bags
TEMPORARY STORAGE PROCEDURES: Standard botanical technique
DELAY BEFORE PERMANENT STORAGE: Up to 10 yrs.
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Cyanide trace
PERMANENT STORAGE CONDITIONS:
CONTAINER: Herbarium cabinets
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Not available

<34>

COMPONENT OF INTEREST: TRACE ELEMENTS

<34>
R.R. Ruch
Illinois State Geological Survey; Natural
Resources Bldg.; Urbana, IL 61801
(217) 344-1481

FORMAL NAME OF COLLECTION: Illinois Basin Crude Oils
COLLECTION DESCRIPTION: Crude oil samples analyzed for trace and minor elements
Data and Specimens
COMMON NAME: Crude Oil
PURPOSE OF COLLECTION: To determine trace and minor elements in order to model basin with geologic parameters
SAMPLING LOCATION:
    STATE: Illinois
NUMBER OF SAMPLES: 150
RESULTS OF ANALYSES: Typical crude oil mixture of hydrocarbons
SAMPLING METHODS: Sample taken from producing well out of vent pipe after appropriate flushing.
TEMPORARY CONTAINER: HNO3 and HCL bottles which had been rinsed with deionized water
DELAY BEFORE PERMANENT STORAGE: 1 month
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: 1 liter glass bottles which had been rinsed with HNO3
AVAILABILITY OF SAMPLES AND/OR DATA: Generally readily available upon request

<35>
Donald B. Lawrence
Dept. of Botany; University of Minnesota;
Biological Science Center; St. Paul, MN 55101
(612) 373-2211

FORMAL NAME OF COLLECTION: Tree cores, 2420-34 Area, Minneapolis, MN 55406
COLLECTION DESCRIPTION: Dried tree increment bore cores; some crossections; pressed plants
Data and Specimens
PURPOSE OF COLLECTION: Dendrochronology
SAMPLING LOCATION:
    STATE: Oregon; Alaska
    GEOGRAPHICAL AREA: Chile; Argentina
PRESAMPLING CONDITIONS: Relatively undisturbed except for radioactive fallout
DATES OF SAMPLING: 1946 to 1967; pressed plants, 1941 to 1973
SAMPLING METHODS: Swedish increment borer
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: 60 to 110 degrees C
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glued in slots in boards; pressed plants in rubberized plastic bags
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available with adequate notice
ADDITIONAL INFORMATION: Publication reprints available

<36>
Joe R. McBride
School of Forestry; University of California;
Berkeley, CA 94720
(415) 642-1249

COLLECTION DESCRIPTION: Tree ring cores
Data and Specimens
PURPOSE OF COLLECTION: Reference collection for dendrochronological studies
SAMPLING LOCATION:
    COUNTY: San Bernadino
    STATE: California
    GEOGRAPHICAL AREA: San Bernadino Mountains near Lake Arrowhead and Bay Bear Lake
PRESAMPLING CONDITIONS: Trees were exposed to low levels of air pollution until the 1950's and increasing levels since
DATES OF SAMPLING: Summers, 1972 to 1974
NUMBER OF SAMPLES: Approx. 2,000, 9 tree species
RESULTS OF ANALYSES: Analysis of tree ring width as an index of air pollution
SAMPLING METHODS: Swedish increment corer
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: Air dried
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Plywood
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: samples and data available after publication of research results

<37>
D. R. Buhler
Environmental Health Science Ctr.;Oregon State
University;Corvallis, OR 97331
(503) 754-2565

COLLECTION DESCRIPTION: Marine mammals, fish, birds, shellfish, and crustaceans; lake and river bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: Investigate the accumulation and binding of environmental contaminants--mainly heavy metals and chlorinated hydrocarbons.
SAMPLING LOCATION:
    CITY: Corvallis
    COUNTY: Benton
    STATE: Oregon
PRESAMPLING CONDITIONS: Some California sea lion samples were collected during the 1971 epizootic.
DATES OF SAMPLING: 1970 to present
NUMBER OF SAMPLES: 100
RESULTS OF ANALYSES: Various tissues or the whole animal.
SAMPLING METHODS: Shooting, hook and line, net, shocking, digging, traps etc.
TEMPORARY CONTAINER: Wet ice
TEMPORARY STORAGE PROCEDURES: Field dissection or removal of entire animal--stored in wet ice.
DELAY BEFORE PERMANENT STORAGE: Maximum one day.
PERMANENT STORAGE PREPARATION: Fractionated; Homogenization
    FREEZING: -21 degrees C
    LYPHYLIZATION: In some cases.
    DRYING: In some cases.
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Sealed plastic containers.
    TEMPERATURE: Walk-in freezer.
    LIGHT EXPOSURE: Minimal lighting
AVAILABILITY OF SAMPLES AND/OR DATA: Will respond to reasonable requests.

<38>
Allan H. Chaney
Texas A&I University; Dept. of Biology;
Kingsville, TX 78363
(512) 595-3802

COLLECTION DESCRIPTION: All aquatic, marine, and terrestrial classes of vertebrates and phyla of invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Taxonomic and natural history
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Southern United States; Mexico
DATES OF SAMPLING: 1963 to present
NUMBER OF SAMPLES: 20,000
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Museum cases, vials & plastic buckets
    TEMPERATURE: 15-26 degrees C
    LIGHT EXPOSURE: Interior
    STORAGE MEDIA: Isoprophyl alcohol
STORAGE LIFE OF SAMPLE: Unknown; 50 to 100 years
AVAILABILITY OF SAMPLES AND/OR DATA: Readily available on request

<39>
Rollin Bauer
Collections of Birds and Mammals; Ecology and Systematics; Langmuir Laboratory; Cornell University; Ithaca, NY 14850
(607) 256-3819

COLLECTION DESCRIPTION: Birds and mammals including skins, skulls, skeletons, eggs, and nests
Data and Specimens
PURPOSE OF COLLECTION: Museum collection, teaching, research and reference
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide
PRESAMPLING CONDITIONS: There is some data on conditions in the area sampled and some information about the specimen prior to collection on some of the specimen labels.
DATES OF SAMPLING: 1870
NUMBER OF SAMPLES: Birds - approx. 42,000; Mammals, approx. 17,000
SAMPLING METHODS: Shooting, netting, trapping; then usual field and museum preparation
TEMPORARY CONTAINER: Museum field specimen cases or formalin/ethanol; some specimens are frozen
TEMPORARY STORAGE PROCEDURES: Standard museum procedures
DELAY BEFORE PERMANENT STORAGE: Few days to few years
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Museum cases
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Outside researchers are free to visit at any time. Material is also freely loaned to qualified researchers and institutions.
ADDITIONAL INFORMATION: The materials in the above collections consists of study-skins, skulls, skeletons and whole preservations in formalin/ethanol. And bird nests and eggs (1000 egg sets, 300 nests).

<40>
Wayne Wilford
Great Lakes Fisheries Laboratory;Box 640;Ann Arbor, MI 48107
(313) 663-3331

COLLECTION DESCRIPTION: Tissue samples from freshwater fish
Data and Specimens
PURPOSE OF COLLECTION: Selected samples saved for future reference in analysis of contaminants
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Lake Michigan; Lake St. Clair; Lake Erie
DATES OF SAMPLING: 1970 to present
NUMBER OF SAMPLES: Unknown
RESULTS OF ANALYSES: Homogenized samples of fish that have been analyzed for pesticides, PCB's and mercury
SAMPLING METHODS: Routine monitoring stations -- fish collected by trawl or gill net
TEMPORARY CONTAINER: Polyethylene bags
TEMPORARY STORAGE PROCEDURES: Fish placed in bags and frozen whole
DELAY BEFORE PERMANENT STORAGE: 1 to 6 weeks
PERMANENT STORAGE PREPARATION: Homogenization
    FREEZING: -25 degrees C
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Polyethylene bags or vials
    TEMPERATURE: Plus or minus 5 degrees C
AVAILABILITY OF SAMPLES AND/OR DATA: All data from [illegible] analyses are available. Material availability is limited.
ADDITIONAL INFORMATION: Majority of fish species are: bloaters (chubs), Lake trout, Coho Salmon, Walleye

<41>
Philip Butler
NEMP;Gulf Breeze Laboratory;Gulf Breeze, FL 32561
(904) 377-5268

FORMAL NAME OF COLLECTION: National Estuarine Monitoring Program, EPA, Pesticide Monitoring Laboratory, Bay St. Louis, Mississippi 39520
COLLECTION DESCRIPTION: Estuarine fish
Data and Specimens
PURPOSE OF COLLECTION: To determine pesticide residue levels in estuarine fish, establish baseline residue levels and detect trends.
SAMPLING LOCATION:
DATES OF SAMPLING: July 1972 to present
NUMBER OF SAMPLES: Approx. 800 per year
RESULTS OF ANALYSES: Composite samples of herbivorous and carnivorous fish
SAMPLING METHODS: Trawls, nets, hook and line
TEMPORARY CONTAINER: Ground up and blended w/dessicant to dry powder, sent immediately to laboratory in aluminum foil.
TEMPORARY STORAGE PROCEDURES: Freezing till analyzed.
PERMANENT STORAGE PREPARATION: Homogenization
    LOW TEMPERATURE ASHING: Frozen
    HIGH TEMPERATURE ASHING: For mercury
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Aluminum foil (1/2 of each sampled saved)
AVAILABILITY OF SAMPLES AND/OR DATA: Annual results published in open literature or by agency. Computerized data available on request to Project Officer

COMPONENT OF INTEREST: TRACE ELEMENTS

<42>
E. Grant Pike
Delta Laboratories, Inc.; 34 Elton St.;
Rochester, NY 14607
(716) 217-5333

COLLECTION DESCRIPTION: Freshwater fish
Specimens Only
PURPOSE OF COLLECTION: Elemental analysis
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Great Lakes
DATES OF SAMPLING: Summer, 1971
NUMBER OF SAMPLES: Approx. 200
TEMPORARY CONTAINER: Polyethylene
TEMPORARY STORAGE PROCEDURES: Sample washed distilled H(2)O, sectioned, sample of sections to storage, Fish aged by scales
DELAY BEFORE PERMANENT STORAGE: 1/2 hour
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: 0 degrees C
PERMANENT STORAGE CONDITIONS: Same as temporary storage
AVAILABILITY OF SAMPLES AND/OR DATA: Small portions available
ADDITIONAL INFORMATION: Elemental analysis of some heavy metals made. All samples were cataloged as to weight, length, girth. All samples aged by using scales. Samples retained in freezers are approximately 25 to 30 grams of muscle tissue.

<43>
Kenneth D. Carlander
Dept. of Animal Ecology;Iowa State
University;Ames, IA 50010
(515) 294-5248

COLLECTION DESCRIPTION: Aquatic vertebrate fish scales
Data and Specimens
PURPOSE OF COLLECTION: For age and growth study but might be used for trace element changes
SAMPLING LOCATION:
STATE: Iowa
DATES OF SAMPLING: 1941 to present
NUMBER OF SAMPLES: Several thousand
RESULTS OF ANALYSES: Scales
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Scale envelopes
AVAILABILITY OF SAMPLES AND/OR DATA: Negotiable

<44>
Gilman D. Veith
National Water Quality Laboratory; 6201 Congdon
Boulevard; Duluth, MN 55804
(218) 727-6526

COLLECTION DESCRIPTION: Homogenized and whole trout, salmon, whitefish, sucker, alewife
Data and Specimens
COMMON NAME: Trout, Salmon, Whitefish, Sucker, Alewife
PURPOSE OF COLLECTION: Analysis of chemical residues
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Lake Michigan, 14 locations
NUMBER OF SAMPLES: 1400
RESULTS OF ANALYSES: 02; 05
SAMPLING METHODS: Gill net
PERMANENT STORAGE PREPARATION: Intact Storage; Homogenization
FREEZING: -20 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass and aluminum foil
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<45>
Paul P. Yevich
National Marine Water Quality Laboratory; S.
Ferry Rd.; Narragansett, RI 02882
(401) 789-1427

COLLECTION DESCRIPTION: Marine fish and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Determine effects of marine pollution on marine life
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States; Coastal areas
NUMBER OF SAMPLES: Thousands
SAMPLING METHODS: Field collection and animals exposed in laboratory
TEMPORARY STORAGE PROCEDURES: Tissue preparation
PERMANENT STORAGE CONDITIONS:
CONTAINER: Slide files
STORAGE LIFE OF SAMPLE: years
AVAILABILITY OF SAMPLES AND/OR DATA: Both data and slides available
ADDITIONAL INFORMATION: This is a collection of tissue slides from marine animals which have been collected from polluted areas and control areas. A comparative collection is also maintained for determining normal baselines

<46>
W. George Blanton
P.O. Box 3227; Dept. of Biology; Texas Wesleyan
College; Fort Worth, TX 76105
(817) 534-0251, ext. 257

FORMAL NAME OF COLLECTION: Arnold Reed Science Center
COLLECTION DESCRIPTION: Marine fish and invertebrates; Estuarine, coastal and marine seawater samples; Brackish water samples
Data and Specimens
PURPOSE OF COLLECTION: Ecological studies
SAMPLING LOCATION:
CITY: N.W. Gulf of Mexico
DATES OF SAMPLING: 1966-74
NUMBER OF SAMPLES: Approx. 200
RESULTS OF ANALYSES: Mercury; Fluorine
SAMPLING METHODS: Nets
TEMPORARY CONTAINER: Polyethylene
TEMPORARY STORAGE PROCEDURES: IM injections with buffered formaldehyde
DELAY BEFORE PERMANENT STORAGE: 1 week
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: 20 degrees C
STORAGE MEDIA: 70% alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Although we try to maintain the collection intact, we have extras of many species
ADDITIONAL INFORMATION: I have extensive data concerning the inorganic mercury and methylmercury content of the epaxial muscles of numerous different specimens of several fish. I have not published these data yet but I am interested in doing so.

COMPONENT OF INTEREST: TRACE ELEMENTS

<47>
J.R. Reed
Dept. of Biology;Virginia Commonwealth University; 901 W. Franklin St.;Richmond, VA 23200
(804) 770-7231

COLLECTION DESCRIPTION: Aquatic and marine algae and fish
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
STATE: Virginia
DATES OF SAMPLING: 1968 to present
NUMBER OF SAMPLES: Several hundred
SAMPLING METHODS: Conventional limnological and fisheries techniques
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Propanol, ethanol, formaldehyde
DRYING: Dried
PERMANENT STORAGE CONDITIONS:
CONTAINER: Jars
STORAGE MEDIA: Propanol, ethanol
AVAILABILITY OF SAMPLES AND/OR DATA: Available, but some restricted with permission needed.

<48>
Kenneth N. Garner
USDI; BSFW Division of Wildlife Services; RM 511, 1720 W. End; Nashville, TN 37210
(615) 749-5506

COLLECTION DESCRIPTION: Starlings primarily
Data and Specimens
COMMON NAME: Starlings
PURPOSE OF COLLECTION: Pesticides and heavy metal monitoring
SAMPLING LOCATION:
CITY: Nashville
COUNTY: Davidson; Hopkins
STATE: Tennessee; Kentucky
DATES OF SAMPLING: Generally late fall
NUMBER OF SAMPLES: 10 per site
SAMPLING METHODS: Sites selected on random statistical basis nationwide - collected with nets, traps, shooting
TEMPORARY CONTAINER: Aluminum foil
TEMPORARY STORAGE PROCEDURES: Frozen in dry ice and stored in 0 degree freezers
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: 0 degrees C
ADDITIONAL INFORMATION: These samples are part of a nationwide program which includes fish, water, soil, etc. and are held temporarily at various labs. Additional samples can be collected at the time of official collections for any legitimate research need. Special samplings of vertebrate wildlife can be made on request for any major program of significance. Deer samples are regularly being taken at Mammoth Cave Research Station in Ky. Other samples of wildlife are routinely taken at our research stations all over the U.S.

<49>
Albert W. Franzmann
Alaska Dept. of Fish and Game; Kenai Moose Research Center; Box H; Soldatna, AK 99669
(907) 262-4107

COLLECTION DESCRIPTION: Moose serum for blood chemistry data; moose hair for trace element data from atomic adsorption spectroscopy.
Data and Specimens
SCIENTIFIC NAME: Alcas alcas gigas
COMMON NAME: Alaska moose
PURPOSE OF COLLECTION: Physiological data
SAMPLING LOCATION:
COUNTY: Kenai Penninsula
STATE: Alaska
DATES OF SAMPLING: 1968 to present
NUMBER OF SAMPLES: 900 serum; 325 hair
SAMPLING METHODS: Standard blood collecting procedures
TEMPORARY CONTAINER: Glass
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: Yes
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: Standard freezer
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Not sufficient quantities for many; 10 ml serum in reserve

<50>
David C. Kradel
Dept. of Veterinary Science; Animal Disease Bldg.; Pennsylvania State University; University Park, PA 16801
(814) 237-4987

COLLECTION DESCRIPTION: Livestock livers
Data and Specimens
PURPOSE OF COLLECTION: Mineral Analyses
DATES OF SAMPLING: 1965 to present
NUMBER OF SAMPLES: Approx 900
RESULTS OF ANALYSES: Livestock livers
SAMPLING METHODS: Necropsy
TEMPORARY CONTAINER: Plastic bags
TEMPORARY STORAGE PROCEDURES: Frozen
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: 0 degrees C
AVAILABILITY OF SAMPLES AND/OR DATA: Tissue, animal species, age, diagnosis

<51>
Arthur Furst
Institute of Chemical Biology;Harney Science Center;University of San Francisco;San Francisco, CA 94117
(415) 666-6415

COLLECTION DESCRIPTION: Histological slides of mouse and rat tissue of metal induced cancers; mouse lung tumors induced by 3-methyl cholanthrene and benzo (a) pyrene
Data and Specimens
SCIENTIFIC NAME: Fischer-344 rat; Swiss Albino mice
PURPOSE OF COLLECTION: Reference of all tumors induced by metals
PRESAMPLING CONDITIONS: Raised and bred by domestic suppliers
DATES OF SAMPLING: 1967 to present
NUMBER OF SAMPLES: Approx. 3000 slides
CHEMICAL STABILIZATION: Formalin (Buffered)
PERMANENT STORAGE CONDITIONS:
CONTAINER: Histological slides
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: At request

<52>

COMPONENT OF INTEREST: TRACE ELEMENTS

<52>
Robert K. Mullen
Mission Research Corporation; P.O. Drawer 719;
Santa Barbara, CA 93102
(905) 963-8761

COLLECTION DESCRIPTION: Reptiles and amphibians of southwest United States
Data and Specimens
PURPOSE OF COLLECTION: Systematic and biogeographic reference
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Southwest United States
PRESAMPLING CONDITIONS: Frequently collected from remote areas before industrial development
DATES OF SAMPLING: 1970 to present
NUMBER OF SAMPLES: 150 reptiles; 50 amphibians
SAMPLING METHODS: Live capture
TEMPORARY CONTAINER: Plastic
TEMPORARY STORAGE PROCEDURES: Freezing
DELAY BEFORE PERMANENT STORAGE: Indefinite
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: 0 degrees C
CHEMICAL STABILIZATION: 10% buffered formalin
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass and polyethylene
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: None
AVAILABILITY OF SAMPLES AND/OR DATA: All samples catalogued (except those used for Hg or radiological analysis) and available to qualified scientists with a legitimate need.
ADDITIONAL INFORMATION: Hg analysis of livers; radiological analysis of whole body

<53>
C. Blincoe
Dept. of Biochemistry;University of Nevada;Reno,
NV 89507
(702) 784-6031

COLLECTION DESCRIPTION: Cattle bones, alfalfa, and crested wheatgrass
Data and Specimens
SCIENTIFIC NAME: Bos taurus, Medicago sativa, Agropyron sp.
COMMON NAME: Cattle, Alfalfa, Crested Wheatgrass
PURPOSE OF COLLECTION: Trace-mineral analysis
SAMPLING LOCATION:
STATE: Nevada
GEOGRAPHICAL AREA: (Sampling locations known to within 1/4 section for plants).
PRESAMPLING CONDITIONS: Varied
DATES OF SAMPLING: Plants: 1950 to present, cattle bone ash: 1959 -1968
NUMBER OF SAMPLES: Cattle Bone Ash: 300; Alfalfa: 250; Other Plants: 150
SAMPLING METHODS: Alfalfa & Crested Wheatgrass: 8-20 subsamples within field composited. Cattle Bones: The bone specified.
TEMPORARY CONTAINER: Plant Samples: Paper bags
DELAY BEFORE PERMANENT STORAGE: Plant Samples: 1 day to 1 week
PERMANENT STORAGE PREPARATION: Homogenization
HIGH TEMPERATURE ASHING: Cattle Bones: 288 degrees C
DRYING: Plant Samples dried to equilibrium moisture and ground to 80 mesh
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
AVAILABILITY OF SAMPLES AND/OR DATA: Availability of samples depends on use to be made of them. Data in unclassified literature.

<54>
Carl Pagel
Water Resources Dept.; 6 Baldwin St.; Montpelier,
VT 05602
(802) 828-3340

COLLECTION DESCRIPTION: Lake and river benthic invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Water quality studies; state distribution; taxonomy
SAMPLING LOCATION:
STATE: Vermont
DATES OF SAMPLING: 1966 to present
NUMBER OF SAMPLES: 1500
SAMPLING METHODS: Water quality monitoring sites; lakes and rivers - many different collection methods
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
STORAGE MEDIA: 70% alcohol
STORAGE LIFE OF SAMPLE: Variable
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and limited data available to outside researchers
ADDITIONAL INFORMATION: We would like to have pesticides and trace elements run on some of our specimens

<55>
Daniel B. Sass
P.O. Box 85;Alfred, NY 14802
(607) 871-2203

FORMAL NAME OF COLLECTION: Allen Fresh Water Mollusca Collection, Myers Hall, Alfred University
COLLECTION DESCRIPTION: Freshwater mollusks
Specimens Only
SCIENTIFIC NAME: Genus Unio
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
STATE: New York
PRESAMPLING CONDITIONS: Casual collection of Jonathan Allen, past president, Alfred University prior to his death in 1892.
DATES OF SAMPLING: Prior to the turn of the century
NUMBER OF SAMPLES: Approx. 100
RESULTS OF ANALYSES: Calcium carbonate (aragonite)
SAMPLING METHODS: Collected by hand and from boats
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Removal of soft tissue and subsequent air drying
PERMANENT STORAGE CONDITIONS:
CONTAINER: Wrapped in newspaper and kept in boxes
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens are available to outside researchers
PUBLICATIONS: Sass, Daniel B., ed.; An Atlas of Some Parameters of the Sedimentation, Mineralogy, Pesticide Retention, and Topography of the Bottom of the Southern Portion of Seneca Lake (Schuyler County) New York. Alfred University Environmental Studies Program and the Aquation Institute of the College Center of the Finger Lakes, Environmental Studies Contribution No. 2 (Aquatics).
ADDITIONAL INFORMATION: Specimens have been of interest to Canadian researchers interested in environmental protection. It is believed that the shell material can furnish valuable information with respect to the pollution of bodies of fresh water. Some of the species are probably extinct. The collection represents a potential source of data for bodies of fresh water in New York prior to the present "crisis" of water pollution.

<56>
John M. Frazier
Johns Hopkins University;615 N. Wolfe St.;
Baltimore, MD 21205
(301) 955-3295

FORMAL NAME OF COLLECTION: Oyster Shell Collection
COLLECTION DESCRIPTION: Oyster shells
Specimens Only
SCIENTIFIC NAME: Crassostrea virginica
COMMON NAME: American oyster
PURPOSE OF COLLECTION: Research on seasonal dynamics of metals in oysters
SAMPLING LOCATION:
COUNTY: Anne Arundel
STATE: Maryland
GEOGRAPHICAL AREA: Rhode River-tributary Chesapeake Bay
PRESAMPLING CONDITIONS: Genetically uniform stock of cultured oysters placed in plastic trays in the Rhode River and sampled regularly
DATES OF SAMPLING: 1972-present
NUMBER OF SAMPLES: 24 monthly samples of the ten shells each
RESULTS OF ANALYSES: Oyster shells
SAMPLING METHODS: Hand
TEMPORARY CONTAINER: Plastic Bags
TEMPORARY STORAGE PROCEDURES: Oysters were structured and shells air dryed
DELAY BEFORE PERMANENT STORAGE: 1 week
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Air dryed
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic Bags
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Possibly

<57>
James B. Lamb
Shellfish Sanitation Branch (HFF-417); Food and Drug Administration, HEW; 200 C St, SW;
Washington, DC 20204
(202) 245-1557

COLLECTION DESCRIPTION: Molluscan bivalves
Data Collection Only
PURPOSE OF COLLECTION: Monitoring of molluscan bivalves for trace elements
SAMPLING LOCATION:
GEOGRAPHICAL AREA: 14 estuaries on Atlantic, Gulf, and Pacific Coasts
DATES OF SAMPLING: 1970 - 1974
NUMBER OF SAMPLES: Approx. 1000
RESULTS OF ANALYSES: 12 trace metals
SAMPLING METHODS: Selected sampling sites normally used to classify shellfish growing areas.
TEMPORARY CONTAINER: All samples kept in frozen state until prepared for chemical analysis
TEMPORARY STORAGE PROCEDURES: Samples of shellfish are also shucked and kept frozen until ready for analysis
DELAY BEFORE PERMANENT STORAGE: Several weeks
PERMANENT STORAGE PREPARATION: Homogenization
LOW TEMPERATURE ASHING: 100 degrees C
HIGH TEMPERATURE ASHING: 450 degrees C
LYPHYLIZATION: Yes
AVAILABILITY OF SAMPLES AND/OR DATA: Data is available
ADDITIONAL INFORMATION: We are also in the process of monitoring 4 commercial shellfishing areas for oil contamination due to accidental oil spills

<58>
W.F. Fitzgerald
Marine Sciences Institute; University of Connecticut; Avery Point; Groton, CT 06340
(203) 446-1020, ext. 272

COLLECTION DESCRIPTION: Zooplankton for heavy metal determination
Data and Specimens
PURPOSE OF COLLECTION: Heavy metal determination
SAMPLING LOCATION:
CITY: Groton
STATE: Connecticut
GEOGRAPHICAL AREA: Avery Point
DATES OF SAMPLING: April 4 to 11, 1971
RESULTS OF ANALYSES: Zooplankton
SAMPLING METHODS: #6 mesh plankton tows
TEMPORARY CONTAINER: Acid-cleaned polyethylene petri dishes
TEMPORARY STORAGE PROCEDURES: Frozen
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -10 degrees C
AVAILABILITY OF SAMPLES AND/OR DATA: Data available, samples may not be available

<59>
Dr. Liu
Stanford Research Institute;333 Ravenswood Rd.;Menlo Park, CA 94025
(415) 326-6200, ext. 2319

COLLECTION DESCRIPTION: Marine benthic organisms; data on estuarine bottom sediment samples.
Data and Specimens
PURPOSE OF COLLECTION: Museum collection (animals only) - present intent; biological survey - former intent
SAMPLING LOCATION:
STATE: California
GEOGRAPHICAL AREA: San Francisco Bay
PRESAMPLING CONDITIONS: Areas sampled limited to dredged channels and areas designated for disposal of dredged materials.
DATES OF SAMPLING: March, 197[illegible] - June, 1974
NUMBER OF SAMPLES: Approx. 350 different species of animals. Data for 132 sediment samples.
SAMPLING METHODS: Modified Peterson grab-replicate samples
TEMPORARY CONTAINER: Polyethylene - sediments only
TEMPORARY STORAGE PROCEDURES: Frozen
DELAY BEFORE PERMANENT STORAGE: 1-3 months before analysis. Sample destroyed.
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: Minus 10 degrees C
CHEMICAL STABILIZATION: Zinc sulfides, reagent grade
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass vials in glass bottles - animals only
TEMPERATURE: None
STORAGE MEDIA: 70 percent ethanol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Subject to approval by Corps of Engineers
ADDITIONAL INFORMATION: Animal specimens and sediment samples were collected for study of the seasonal distribution and abundance of benthic fauna in S.F. Bay. Sediment samples were analyzed for heavy metals, total sulfides, pH, temperature, and grain size distribution. Animals were identified by taxonomic specialists. Approximately 320,000 individuals represented by about 350 different species were collected. Study funded by Corps of Engineers. All biological material will be donated to the California Academy of Sciences after completion of study at end of December, 1974. Release of data subject to approval of Corps of Engineers.

COMPONENT OF INTEREST: TRACE ELEMENTS

<60>
Donald K. Phelps
National Marine Water Quality Lab.; S. Ferry Rd.;
Narragansett, RI 02882
(401) 789-7731

COLLECTION DESCRIPTION: Marine invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Benthic baseline survey
SAMPLING LOCATION:
STATE: Rhode Island
GEOGRAPHICAL AREA: Narragansett Bay
DATES OF SAMPLING: 1969 to 1973 at monthly or bi-monthly intervals
RESULTS OF ANALYSES: Seived sediments and animals
SAMPLING METHODS: Small animals retained by 0.35 mm seive. After macrobenthic forms removed and noted for community structure, microbenthics are analyzed for trace elements
TEMPORARY STORAGE PROCEDURES: Formalin hardened--transferred to alcohol
PERMANENT STORAGE CONDITIONS:
CONTAINER: Polyethelene
STORAGE MEDIA: Alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Data primarily - limited animals

<61>
Dorald M. Allred
301 WIDB; Brigham Young University;Provo, UT 84602
(801) 374-1211, ext. 2007

COLLECTION DESCRIPTION: Rodents and terrestrial arthropods
Data and Specimens
PURPOSE OF COLLECTION: Ecological studies as base-lines for effects of nuclear testing
SAMPLING LOCATION:
STATE: Nevada
GEOGRAPHICAL AREA: Nevada Test Site; National Reactor Testing Station
NUMBER OF SAMPLES: Hundreds of vertebrate tissues; thousands of arthropods
PERMANENT STORAGE PREPARATION: Intact Storage
RADIATION: Variable -- available classified from AEC
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Vertebrates in Bowin's fixative; Arthropods dry and in 70% ethyl alcohol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Limited and selective

<62>
Gurdarshan S. Thind
Cardiovascular Section; Washington University
Medical Service;VA Hospital;915 N. Grand Blvd.;
St. Louis, MO 63125
(314) 652-4100, ext. 504

COLLECTION DESCRIPTION: Human tissue samples from diseased and normal bones and organs; Human plasma and serum; Tissue samples from rats, dogs, and rabbits
Data and Specimens
PURPOSE OF COLLECTION: Research standards and chemical analyses
SAMPLING LOCATION:
CITY: St. Louis, MO
COUNTY: St. Louis, MO
STATE: Missouri; Illinois
PRESAMPLING CONDITIONS: A complete history, physical examination and laboratory investigation of the medical problem of patients undertaken.
DATES OF SAMPLING: 1973
NUMBER OF SAMPLES: Plasma and serum from over 50 patients, 300 tissue samples from animals
RESULTS OF ANALYSES: Cadmium, zinc and other trace elements, sodium, potassium, calcium and magnesium.
SAMPLING METHODS: Percutaneous istravenous collection of blood in patients and autopsy specimens in animals.
TEMPORARY CONTAINER: Metal-free plastic bottles; acid-washed glass tubes
TEMPORARY STORAGE PROCEDURES: Contamination-free instruments
DELAY BEFORE PERMANENT STORAGE: Less than one hour before deep-freezing
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: Cold storage
HIGH TEMPERATURE ASHING: 500 degrees C
CHEMICAL STABILIZATION: Extraction chelation for atomic absorption spectrophotometry for cadmium and zinc.
PERMANENT STORAGE CONDITIONS:
CONTAINER: Acid washed glass containers or plastic
TEMPERATURE: Cold storage

COMPONENT OF INTEREST: TRACE ELEMENTS

<63>
John W. Poston
Oak Ridge National Laboratory; P.O. Box X; Oak Ridge, TN 37830
(615) 483-8611, ext. 3-1481

COLLECTION DESCRIPTION: Human tissue
Data and Specimens
SCIENTIFIC NAME: Homo sapiens
COMMON NAME: Adult man
PURPOSE OF COLLECTION: To determine the average normal concentration and distribution of the natural elements in the normal human body.
SAMPLING LOCATION:
CITY: Baltimore, Md.; Dallas, Tx., Miami, Fla.; Seattle & Tacoma, Wash.; Richmond, Va
STATE: Maryland; Texas; Florida; Washington; Virginia
GEOGRAPHICAL AREA: Africa; Near and Far East; Europe
PRESAMPLING CONDITIONS: Samples from autopsies of adult men in good health who had met instantaneous death.
DATES OF SAMPLING: 1955 to 1965
NUMBER OF SAMPLES: 725 men; 75,000 samples in collection
RESULTS OF ANALYSES: Normal human tissue; A minimum of 100 gm of each large organ or the entire small organ was taken.
SAMPLING METHODS: Samples taken within 24 hours of death placed in polyethylene bags and kept frozen until ashed. Since it was known that there is a wide individual and geographical variation in the concentration of elements, large number of samples were collected from different locations
TEMPORARY CONTAINER: Polyethylene bags
TEMPORARY STORAGE PROCEDURES: Frozen in dry ice and shipped by air; kept free of contaminants
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: 18 degrees C
HIGH TEMPERATURE ASHING: 450 degrees C for 24 hrs
CHEMICAL STABILIZATION: Some samples contain spectrographic buffer but are labeled and the buffer contents are listed.
DRYING: 110 degrees C for 24 hrs; after 1956--300 degrees C for 24 hrs
OTHER: To keep contamination of samples at a minimum the following precautions were taken: 1. Laboratory air brought in through high efficiency filters. 2. Except for stainless steel scalpels used in collecting and trimming the samples, nothing but fused silica, polyethylene and platinum touched the samples. 3. All water used as distilled and passed through an ion-exchange column and stored in polyethylene bottles. 4. All dishes were washed and soaked in versine and then rinsed in ion-exchange water and dried for 24 hours.
PERMANENT STORAGE CONDITIONS:
CONTAINER: Polyethylene bottles with teflon caps
TEMPERATURE: Air conditioned room
LIGHT EXPOSURE: Darkened room
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Unknown--should be quite long
AVAILABILITY OF SAMPLES AND/OR DATA: Yes
ADDITIONAL INFORMATION: All persons who collected and processed this specimen collection have now either retired or left ORNL. The samples seem to be adequately stored and labeled; however the collection needs to be evaluated and probably more adequately catalogued by a member of the original team or similar expert before it is included in a permanent sample bank

<64>
Stanley B. Gross
Kettering Laboratory;University of Cincinnati;3223 Eden Ave.;Cincinnati, OH 45219
(513) 872-5780; (513) 872-5748

FORMAL NAME OF COLLECTION: Hamilton County Ohio Morgue; Children's Hospital - Pathology; Christ Hospital; Cincinnati, OH 45219
COLLECTION DESCRIPTION: Human tissues; Bone, organs, hair; Diseased and normal; Analyzed for Cd, Cu, Pb, and Zn
Data and Specimens
SCIENTIFIC NAME: Homo sapiens
COMMON NAME: Human
PURPOSE OF COLLECTION: Chemical Analysis-Trace Metals
SAMPLING LOCATION:
CITY: Cincinnati
COUNTY: Hamilton
STATE: Ohio
PRESAMPLING CONDITIONS: Accidental and medical deaths
DATES OF SAMPLING: Dec. 1970 to present
NUMBER OF SAMPLES: 100 sets of 25-29 different tissues per post plus 120 sets (in progress) of hair, liver, and kidney
RESULTS OF ANALYSES: Segments of the various tissues standardized
TEMPORARY CONTAINER: Polyethylene bags, non-vented
TEMPORARY STORAGE PROCEDURES: Tissues removed from body using stainless steel or carbon steel instruments (protection from water, contamination or drying)
DELAY BEFORE PERMANENT STORAGE: Days to 4 yrs.
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: Standard freezer
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass scintillation vials with plastic screw caps with polyethylene cap liners or polyethylene bags
TEMPERATURE: Freezing
STORAGE MEDIA: Air, frozen
AVAILABILITY OF SAMPLES AND/OR DATA: Not available at present
ADDITIONAL INFORMATION: These are important tissues because of the collection methods and the detailed pathological data available. We would like to do additional multiple metal analyses to determine normal levels, metal interactions and the associations of the metals to health and disease.

<65>

COMPONENT OF INTEREST: TRACE ELEMENTS

<65>
Irving Selikoff
Dept. of Environmental Medicine; Mt. Sinai Hospital; 5th Ave. & 100th St.; New York, NY 10029
(212) 876-1178

COLLECTION DESCRIPTION: Postmortem lung autopsies
Data and Specimens
PURPOSE OF COLLECTION: Consecutive autopsies for particulate content
SAMPLING LOCATION:
CITY: New York City; Queens; Bronx
STATE: New York
PRESAMPLING CONDITIONS: Full occupational, residence, medical histories
DATES OF SAMPLING: 1966 to 1969
NUMBER OF SAMPLES: 3000
RESULTS OF ANALYSES: lungs
SAMPLING METHODS: Autopsy
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -4 degrees C
LOW TEMPERATURE ASHING: Yes
HIGH TEMPERATURE ASHING: Yes
CHEMICAL STABILIZATION: 1000 in formalin
OTHER: 2, 000 frozen
PERMANENT STORAGE CONDITIONS:
CONTAINER: PVC bags
AVAILABILITY OF SAMPLES AND/OR DATA: Under approved conditions

<66>
I. Harding-Barlow
3717 Lagina Ave.; Palo Alto, CA 94306
(415) 493-8146

COLLECTION DESCRIPTION: 10 human organs analyzed for 20 trace elements after normal and diseased death
Data Collection Only
SCIENTIFIC NAME: Homo Sapiens
COMMON NAME: Human
PURPOSE OF COLLECTION: Base line studies for study of diseases
SAMPLING LOCATION:
CITY: Capetown
GEOGRAPHICAL AREA: South Africa
PRESAMPLING CONDITIONS: Accidental deaths
DATES OF SAMPLING: Jan. 1959 to Mid 1960
NUMBER OF SAMPLES: (68 normal 10 diseased); 10 organs
SAMPLING METHODS: Autopsy
TEMPORARY CONTAINER: Plastic
TEMPORARY STORAGE PROCEDURES: Freezing in deep freeze
DELAY BEFORE PERMANENT STORAGE: Not more than 7 days
PERMANENT STORAGE PREPARATION: Intact Storage
HIGH TEMPERATURE ASHING: 430-460 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic
AVAILABILITY OF SAMPLES AND/OR DATA: Data fully available
ADDITIONAL INFORMATION: Standards used were those made up by Tipton & hence results are strictly comparable with hers. Methods were similar. Fairly detailed autopsy data is available. Data may be valuable because of the normal data, prior to pollution in all big cities.

<67>
A.B. Brill
Division of Nuclear Medicine and Biomedicine;School of Medicine; Vanderbilt University;Nashville, TN 37232
(615) 322-2394

COLLECTION DESCRIPTION: Maternal blood, fetal blood, placenta
Data and Specimens
PURPOSE OF COLLECTION: Determination of trace element content
SAMPLING LOCATION:
CITY: Nashville
COUNTY: Davidson
STATE: Tennessee
DATES OF SAMPLING: Sept. 1971 - Apr. 1973
NUMBER OF SAMPLES: 1000
SAMPLING METHODS: Samples collected from local hospitals, blood sample was drawn from mother; cord blood sample was obtained shortly after birth; portion of placenta was removed
TEMPORARY CONTAINER: Glass test tubes (blood); plastic bags (placenta)
TEMPORARY STORAGE PROCEDURES: Placenta samples were frozen until lyophilization
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass test tubes (blood); glass jars (placenta)
AVAILABILITY OF SAMPLES AND/OR DATA: Can be arranged

<68>
Cornelius C. Maher, III; A.A. Gordus
Dept. of Chemistry;University of Michigan;Ann Arbor, MI 48104
(313) 763-1260; (313) 764-7369; (313) 763-1095

COLLECTION DESCRIPTION: Human hair
Specimens Only
PURPOSE OF COLLECTION: Chemical analysis
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
PRESAMPLING CONDITIONS: Service academy cadets; Univ. of Mich. students; historical hair samples from 50 states
DATES OF SAMPLING: Historic 1740 - 1940; Modern 1971-Present
NUMBER OF SAMPLES: 10,000 and growing
RESULTS OF ANALYSES: Hair-keratin
SAMPLING METHODS: Modern - stainless steel scissors used to clip hair; historic hair only accepted if it has been preserved in shadow box or brooch or by other means kept "clean"
TEMPORARY CONTAINER: Plastic bags
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: Room temperature
HUMIDITY: None
LIGHT EXPOSURE: Dark
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<69>
Thomas W. Clarkson
Dept. of Radiation Biology and Biophysics; University of Rochester; School of Medicine; 260 Crittenden Blvd.; Rochester, NY 14642
(716) 275-3911

COLLECTION DESCRIPTION: Hair samples from normal and diseased humans.
Data and Specimens
COMMON NAME: Human hair
PURPOSE OF COLLECTION: Survey of mercury levels in normal populations andpopulations with high exposure
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Iraq; Peru; American Samoa; Malta; Spain
DATES OF SAMPLING: 1972 - 1974
NUMBER OF SAMPLES: 3000
SAMPLING METHODS: Hair (100-500 strands) held with hemostat and cut close to scalp, then stapled to inside of plastic bag.
TEMPORARY CONTAINER: Plastic bags
PERMANENT STORAGE PREPARATION: Intact Storage
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Individual application to T.W. Clarkson

COMPONENT OF INTEREST: TRACE ELEMENTS

<70>
Irving M. Shapiro
Dept. of Biochemistry; School of Dental Medicine; University of Pennsylvania; Philadelphia, PA 19174
(215) 243-8935

COLLECTION DESCRIPTION: Human deciduous teeth, normal and diseased
Data and Specimens
PURPOSE OF COLLECTION: Trace element analysis
SAMPLING LOCATION:
    CITY: Philadelphia
    STATE: Pennsylvania
PRESAMPLING CONDITIONS: Child's history available in some cases
DATES OF SAMPLING: 1969 - 1974
NUMBER OF SAMPLES: 1,000
SAMPLING METHODS: Collection from schools and clinics
TEMPORARY CONTAINER: Polyethylene and glass
DELAY BEFORE PERMANENT STORAGE: 24 hours
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Polyethylene and glass
    STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: On request

<71>
Herbert L. Needleman
Children's Hospital Medical Center; 300 Longwood Ave.; Boston, MA 02115
(617) 734-6000, ext. 3400

COLLECTION DESCRIPTION: Human teeth
Data and Specimens
PURPOSE OF COLLECTION: Chemical analysis; dentine lead analysis of deciduous teeth from urban children
SAMPLING LOCATION:
    CITY: Brookline MA; Philadelphia, PA
    STATE: Massachusetts; Pennsylvania
DATES OF SAMPLING: PA, 1970; MA, 1974
NUMBER OF SAMPLES: PA, 761; MA, 200
TEMPORARY CONTAINER: Paper envelopes
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Paper envelopes
AVAILABILITY OF SAMPLES AND/OR DATA: After consultation
PUBLICATIONS: Subclinical Lead Exposure in Philadelphia School Children, Identification by Dentine Lead Analysis, H.L. Needleman, I. Davidson, E.M. Sewell, I.M. Shapiro, New England Jour. Med., 290: 245-248, 1974
ADDITIONAL INFORMATION: From sample 1: Data available. From sample 2: Specimens are awaiting analysis. Willing to discuss collaborative work with other investigators

<72>
Herbert Tischler
Dept. of Earth Sciences; University of New Hampshire; Durham, NH 03824
(603) 862-1718

COLLECTION DESCRIPTION: Bedrock; Estuarine and marine bottom sediments; Estuarine and Coastal seawater
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
    STATE: New Hampshire
DATES OF SAMPLING: 1970 to present
SAMPLING METHODS: Core; grab samples; water bottles

<73>
Lester J. Walters, Jr.
Dept. of Geology; Bowling Green State University;Bowling Green, OH 43403
(419) 372-2886

FORMAL NAME OF COLLECTION: Lake Erie sediment cores - Dept. of Geology BGSU
COLLECTION DESCRIPTION: Sediment cores from lakes and rivers; water samples from freshwater lakes and river
Data and Specimens
PURPOSE OF COLLECTION: Chemical analysis
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Detroit River; Lake Erie; Sandusky Bay; Maumee Bay; Maumee River
DATES OF SAMPLING: July 1971 - October 1973
NUMBER OF SAMPLES: Approx 300 cores; Approx. 380 water samples
SAMPLING METHODS: Gravity cores, water samples collected with Knansen Bottles.
TEMPORARY CONTAINER: Onboard ship-cores stored in CAB tubing, water in polyethylene bottles & fixed with HNO_3 or HCl
DELAY BEFORE PERMANENT STORAGE: 1 week max.
PERMANENT STORAGE PREPARATION: Fractionated
    CHEMICAL STABILIZATION: Water samples, HNO_3 or HCl 2 ml 4N acid/liter, reagent grade
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Sediment core intervals in polyethylene bottles
    TEMPERATURE: Frozen
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and data are available for cooperative study.
ADDITIONAL INFORMATION: Data summary attached

<74>
G. Kullerud
Dept. of Geosciences; Purdue University; W. Lafayette, IN 47907
(317) 494-8171

COLLECTION DESCRIPTION: Soils, bedrock, lake and river bottom sediment samples; Chemical particulate matter from air samples
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
DATES OF SAMPLING: 1967 - 1974
NUMBER OF SAMPLES: Many thousand
SAMPLING METHODS: Variable, depending on needs

COMPONENT OF INTEREST: TRACE ELEMENTS

<75>
Howard R. Ritzma
Utah Geological & Mineral Survey;Utah Dept. of Natural Resources;103 Utah Geological Survey Bldg.;University of Utah;Salt Lake City,UT 84112
(801) 581-6831

COLLECTION DESCRIPTION: Soils, bedrock, organic detritus and lake and river bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: The collection is used by the mining and the petroleum industry as well as by researchers.
SAMPLING LOCATION:
STATE: Utah
PRESAMPLING CONDITIONS: Cores and drilling samples from drilling operations in Utah. The site looks favorable for uranium, oil, gas, base metals etc. and companies drill. So the presampling history is tied up in the rocks themselves.
DATES OF SAMPLING: 1930 to present
NUMBER OF SAMPLES: Thousands
RESULTS OF ANALYSES: Rock in the form of drill cuttings and cores
SAMPLING METHODS: Oil drill rigs, water well drill rigs, and hand instruments
TEMPORARY CONTAINER: Paper and cardboard
DELAY BEFORE PERMANENT STORAGE: Could be months or years
PERMANENT STORAGE PREPARATION: Intact Storage
RADIATION: Bedrock
PERMANENT STORAGE CONDITIONS:
CONTAINER: Cardboard and paper
TEMPERATURE: Room temperature
HUMIDITY: None
LIGHT EXPOSURE: Uncontrolled
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Samples available to any researcher; Data, that is electric logs, etc., must be used in the library.
ADDITIONAL INFORMATION: Our samples and data are intended to provide helpful information to the mining and the petroleum industries as heretofore stated. However, if one were interested in examining the chemical composition of subsurface materials i.e., shales, sands, limestones, etc., then our facility might be of value.

<76>
J.R. McHenry
USDA Sedimentation Laboratory; Box 1157;Oxford, MS 38655
(601) 234-4121

COLLECTION DESCRIPTION: Organic detritus, and lake and estuarine bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: Materials for various studies of soil and sedimentation factors
SAMPLING LOCATION:
STATE: Florida; Texas; North Dakota
GEOGRAPHICAL AREA: 24 states coast to coast; United States
PRESAMPLING CONDITIONS: Cultivated, non-cultivated, woods, pasture, bare,; lakes, impoundments, estuaries
DATES OF SAMPLING: 1969 to present
NUMBER OF SAMPLES: Hundreds; number varies as materials are not all kept in permanent storage.
SAMPLING METHODS: Volumetric, fragmented
TEMPORARY CONTAINER: Plastic or cardboard containers
TEMPORARY STORAGE PROCEDURES: Collected at field moisture, dried before storage
DELAY BEFORE PERMANENT STORAGE: Months
PERMANENT STORAGE PREPARATION: Intact Storage
RADIATION: Background plus fallout
DRYING: 40 degrees C reduced pressure or 110 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Cardboard container
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Collected and reported as part of AEC Contract AT-(49-7)-3029

<77>
John Kempton
Illinois State Geological Survey; Natural Resources Bldg.; Urbana, IL 61801
(217) 344-1481

FORMAL NAME OF COLLECTION: Geologic Samples Library
COLLECTION DESCRIPTION: Paleozoic bedrock, mineral and rock collection from deposits, glacial drift, wells, and outcrops; bottom sediments from lakes and streams; invertebrate fossils
Data and Specimens
PURPOSE OF COLLECTION: Research and public service on geology of State of Illinois
SAMPLING LOCATION:
STATE: Illinois
GEOGRAPHICAL AREA: States surrounding Illinois
DATES OF SAMPLING: 19th century to present
NUMBER OF SAMPLES: Approx. 5,250,000
RESULTS OF ANALYSES: Predominately samples of Paleozoic bedrock, mineral deposits, glacial drift
SAMPLING METHODS: Cuttings and/or cores from oil and gas wells, coal tests, water wells, and engineering test borings and samples from both natural and man made outcrops
TEMPORARY STORAGE PROCEDURES: Sample usually put into cloth bag at outcrop or drilling site
DELAY BEFORE PERMANENT STORAGE: Variable - between a few days and a few years
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Mostly air dried, some in low temperature (less than 100 degrees C) oven
PERMANENT STORAGE CONDITIONS:
CONTAINER: Cloth bags, paper envelopes, cardboard boxes, or steel drawers
TEMPERATURE: Heated warehouse
HUMIDITY: Heated warehouse
LIGHT EXPOSURE: Variable
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Unlimited
AVAILABILITY OF SAMPLES AND/OR DATA: Available to all researchers, 8AM to 5 PM weekdays, at the Illinois State Geological Survey

COMPONENT OF INTEREST: TRACE ELEMENTS

<78>
Stephen G. Shetron
School of Forestry and Wood Products;Ford
Forestry Center; L'Anse, MI 49946
(906) 524-7236; (906) 524-6631

COLLECTION DESCRIPTION: Alkaline mine mill
tailings; soils
Data and Specimens
PURPOSE OF COLLECTION: Vegetative stabilization
of alkaline mine mill tailings and forest
fertilization
SAMPLING LOCATION:
    CITY: Hubbell
    COUNTY: Marquette; Houghton
    STATE: Michigan
PRESAMPLING CONDITIONS: Sample areas were
formally used for the deposition of mine
effluent, iron and copper. Research was conducted
to test possibility of these materials for plant
growth
DATES OF SAMPLING: 1968 to present
NUMBER OF SAMPLES: 100
RESULTS OF ANALYSES: Sand and silts, low in
nitrogen, phosphorus, potassium, adequate
calcium, high in iron, aluminum; physical
properties; water, bulk density, and
macronutrients.
SAMPLING METHODS: Standard agronomic procedures
TEMPORARY CONTAINER: Plastic containers with
covers
DELAY BEFORE PERMANENT STORAGE: 1 to 6 years
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: Air drying of samples
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Plastic with covers
    TEMPERATURE: 13 to 22 degrees C
    HUMIDITY: 40 to 90%
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<79>
Louis T. Kardos
Dept. of Agronomy; Pennsylvania State University;
219 Tyson Bldg.; University Park
(814) 865-1169

COLLECTION DESCRIPTION: Jordan plot samples and
waste water research soil samples
Data and Specimens
PURPOSE OF COLLECTION: Chemical analysis
SAMPLING LOCATION:
    CITY: State College
    COUNTY: Centre
    STATE: Pennsylvania
PRESAMPLING CONDITIONS: Farmland and regrowth
forests
DATES OF SAMPLING: Jordan Plots: 1918 - 1958;
Waste water: 1963 - 1973
NUMBER OF SAMPLES: Soil Characterization soil
profile - 4000 samples, 1957 to date; Several
hundred samples; by years, by plct treatment, and
by depth.
RESULTS OF ANALYSES: Inorganic elements, total
and selectively extraceable
SAMPLING METHODS: Coring devices, spade or shovel
TEMPORARY CONTAINER: Cloth; paper bags
DELAY BEFORE PERMANENT STORAGE: One day to one
month
    DRYING: Air drying at room temperature
    OTHER: Sieved through 2mm opening
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass; waxed or plastic
    impregnated cardboard
AVAILABILITY OF SAMPLES AND/OR DATA: Limited

<80>
Robert W. Johnson
U.S. Soil Conservation Service; 401 1st St.;
Gainsville, FL 32601
(904) 373-2493; FTS (904) 377-3277

COLLECTION DESCRIPTION: Soil surveys for purposes
of publication.
Data Collection Only
PURPOSE OF COLLECTION: Soil survey maps and
interpretations
SAMPLING LOCATION:
    STATE: Florida
SAMPLING METHODS: Field examination
STORAGE LIFE OF SAMPLE: 20 to 30 years
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Selected soils are
sampled in each soil survey area (county) &
laboratory analysis run for chemical, physical,
and mineralogical properties. This data is
published in the published soil survey.

<81>
Donald A. Klein
Microbiology Department; Colorado State
University;Fort Collins, CO 80521
(303) 491-6947 or -0136; (303) 491-2012

COLLECTION DESCRIPTION: Organic detritus and soil
samples; Bacteria
Data and Specimens
PURPOSE OF COLLECTION: Baseline studies for
possible silver accumulation through weather
modification
SAMPLING LOCATION:
    CITY: Hillview, CA
    STATE: Colorado; California
    GEOGRAPHICAL AREA: San Juan Mtns. ;
    Tennessee Pass
NUMBER OF SAMPLES: 600 per year over 4 year period
RESULTS OF ANALYSES: Silver
SAMPLING METHODS: Hand samples
TEMPORARY CONTAINER: Plastic bags
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: Air-dried
PERMANENT STORAGE CONDITIONS:
    HUMIDITY: Dry air
    LIGHT EXPOSURE: Dark

<82>
J.S. Marshall
Environmental Sciences Section; Radiological
Physics Div.;Argonne National Lab.;9700 Cass
Ave.; Argonne, IL 60439
(312) 739-7711 ext.2864

COLLECTION DESCRIPTION: Soil
Data and Specimens
PURPOSE OF COLLECTION: Soil characterization of
ecclogy plots
SAMPLING LOCATION:
    CITY: Argonne
    COUNTY: Du Page
    STATE: Illinois
    GEOGRAPHICAL AREA: Argonne National Lab. RER
    Division
PRESAMPLING CONDITIONS: Agricultural fields
abandoned 20 years prior to sampling and in
secondary succession
DATES OF SAMPLING: June to Sept 1967
NUMBER OF SAMPLES: 50 to 100
SAMPLING METHODS: Soil sampling tube
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: Air dry soils
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Plastic bags, cardboard soil
    boxes for some samples
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Subsamples
available by request

<83>

COMPONENT OF INTEREST: TRACE ELEMENTS

<83>
Stuart W. Maher
East Tennessee Branch;Tennessee Division of Geology;4711 Old Kingston Pike;Knoxville, TN 37919
(615) 588-6575

COLLECTION DESCRIPTION: Bedrock materials
Data and Specimens
PURPOSE OF COLLECTION: Geologic and mineralogic investigations
SAMPLING LOCATION:
    STATE: Tennessee
DATES OF SAMPLING: 1956 to present
NUMBER OF SAMPLES: Several hundred
RESULTS OF ANALYSES: Inorganic
SAMPLING METHODS: Drilling, outcrop sampling
TEMPORARY CONTAINER: Cases
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Open file

<84>
Harold C. Mattraw
Miami Subdistrict Office; U.S.G.S. Water Resources Division; 901 S. Miami Avenue; Miami, FL 33130
(305) 350-5382

COLLECTION DESCRIPTION: Soils; river and estuarine bottom sediments
Data Collection Only
PURPOSE OF COLLECTION: Research and chemical analysis
SAMPLING LOCATION:
    CITY: Immokalee to Everglades City
    COUNTY: Collier
    STATE: Florida
    GEOGRAPHICAL AREA: Barron River Canal; Chokoloskee Bay; Lostmans Bay
PRESAMPLING CONDITIONS: Agricultural and natural soils; intermittent borrow canal Canal; estuarine area
DATES OF SAMPLING: October 1971-November 1972
NUMBER OF SAMPLES: 53
RESULTS OF ANALYSES: Cation exchange capacity and exchangeable metals for metal transport mechanisms; Exchangeable Mn, Fe, Co, Cu, Zn, Cd, Pb; % organics, CEC, pH, Eh
SAMPLING METHODS: Coring of range of natural conditions
TEMPORARY CONTAINER: Polyethyelene Bags
TEMPORARY STORAGE PROCEDURES: Extrusion into bags-maintained until processed at approx. 1 degree C
PERMANENT STORAGE PREPARATION: Fractionated
    CHEMICAL STABILIZATION: Cation exchange capacity with ammonium acetate and sodium chloride 10%
    OTHER: Density size fractionation in double distilled water
AVAILABILITY OF SAMPLES AND/OR DATA: Data published
PUBLICATIONS: PB-233 526, NTIS

<85>
R.J. Stephenson
U.S. Army Corps of Engineers; South Atlantic Division; P.O. Box 51; Marietta, GA 30061
(404) 424-0811 ext. 2346

COLLECTION DESCRIPTION: Lake, River, estuarine, and marine bottom sediments; Water samples from freshwater lakes, rivers, and seawater
Data and Specimens
PURPOSE OF COLLECTION: Chemical Analysis
SAMPLING LOCATION:
    STATE: North Carolina; Georgia; Florida; Alabama
DATES OF SAMPLING: 1972 to present
RESULTS OF ANALYSES: Trace metals, minerals, C.O.D., and T.O.C.
TEMPORARY CONTAINER: Plastic
TEMPORARY STORAGE PROCEDURES: Refrigeration
    CHEMICAL STABILIZATION: Nitric acid, 50% at 3 ml per liter, ACS purity
AVAILABILITY OF SAMPLES AND/OR DATA: Can usually be furnished upon receipt of specific written request.

<86>
Jonathan H. Goodwin
Dept. of Geology and Physics; University of Utah; Salt Lake , UT 84112
(801) 581-7062

FORMAL NAME OF COLLECTION: Yellowstone-Jackson Cores, 102 Mines Bldg., Univ. of Utah, Salt Lake City, UT 84112
COLLECTION DESCRIPTION: Bottom sediment cores; water samples from rivers and oligotrophic lakes
Data and Specimens
PURPOSE OF COLLECTION: Sedimentological and geochemical analysis of trace and major elements in part for pollution studies
SAMPLING LOCATION:
    COUNTY: Park; Teton
    STATE: Wyoming
    GEOGRAPHICAL AREA: Yellowstone Lake; Yellowstone National Park; Jackson Lake; Grand Teton National Park
PRESAMPLING CONDITIONS: Yellowstone Lake: stable conditions for the last 6000 years, protected from major human influence since 1870's. Jackson Lake: dam constructed to increase lake size in 1903, national park created in 1950's
DATES OF SAMPLING: July-August 1973; July, 1974
NUMBER OF SAMPLES: Cores: 46, Water samples: 30
RESULTS OF ANALYSES: Yellowstone - 95% diatom frustules, 5% mineral clays; Jackson Lake - Major diatom frustules, minor mineral clays
SAMPLING METHODS: Cores taken with alpine piston corer, 1 1/8 in. diam.; Lake water - Hansen bottles; Stream water - bucket grab samples, in situ pH measurements
TEMPORARY CONTAINER: Stored in standard plastic core liners
TEMPORARY STORAGE PROCEDURES: Ends sealed with cap plugs and vinyl electrical tape
DELAY BEFORE PERMANENT STORAGE: Up to 2 years maximum, 2 mo. minimum
PERMANENT STORAGE PREPARATION: Intact Storage; Fractionated
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Polystyrene plastic vials
    TEMPERATURE: Air conditioned, 18 degrees C
    HUMIDITY: None, up to 20% or more relative humidity
    LIGHT EXPOSURE: Room lighting
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Data freely exchanged, samples available for costs of sampling

COMPONENT OF INTEREST: TRACE ELEMENTS

<87>
MacKenzie L. Keith
Mineral Conservation Section; 120 Mineral
Sciences Bldg.; Pennsylvania State University;
University Park, PA 16802
(814) 865-7261

COLLECTION DESCRIPTION: Stream sediments
Data and Specimens
SCIENTIFIC NAME: Sediment Fines (-100 mesh)
PURPOSE OF COLLECTION: Chemical analysis for trace metals
SAMPLING LOCATION:
STATE: Pennsylvania
DATES OF SAMPLING: 1962 to present
NUMBER OF SAMPLES: 8000 +
RESULTS OF ANALYSES: Clay minerals, quartz
SAMPLING METHODS: 4 or 5 hand grab samples combined
TEMPORARY CONTAINER: cloth bags
TEMPORARY STORAGE PROCEDURES: Samples air dried on aluminum mesh screen in field car
DELAY BEFORE PERMANENT STORAGE: 1 to 2 days
PERMANENT STORAGE PREPARATION: Fractionated
DRYING: Oven dried at 110 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic vials
TEMPERATURE: Room temp. 18 degrees to 28 degrees C.
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Samples are small, some less than 10 gms

<88>
Kenneth Steele
Dept. of Geology; University of
Arkansas;Fayetteville, AR 72701
(501) 575-3355

COLLECTION DESCRIPTION: River bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: Relationship of trace metal content of bottom sediments of Buffalo River to water composition
SAMPLING LOCATION:
STATE: Arkansas
GEOGRAPHICAL AREA: Buffalo River
DATES OF SAMPLING: March 1973 to present
NUMBER OF SAMPLES: Approx. 60
RESULTS OF ANALYSES: Fe-Mn oxide coated quartz grains; some shale; carbonate particles
SAMPLING METHODS: Polyethylene shovel
PERMANENT STORAGE CONDITIONS:
CONTAINER: Polyethylene
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Both available

<89>
Tsaihwa J. Chow
Scripps Institution of Oceanography; La Jolla, CA
92037
(714) 452-4086

COLLECTION DESCRIPTION: Marine bottom sediments and chemical air particulates
Data and Specimens
SAMPLING LOCATION:
CITY: San Diego
STATE: California
DATES OF SAMPLING: 1967 to present
SAMPLING METHODS: Filter
STORAGE LIFE OF SAMPLE: Indefinite

<90>
Michael J. Cruickshank
U.S. Geological Survey; Office of the Area Mining
Supervisor; 345 Middlefield Rd.; Menlo Park, CA
94025
(415) 323-8111

COLLECTION DESCRIPTION: Marine bottom sediments
Data and Specimens
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States

<91>
G. H. Keller
NOAA, Marine Geology and Geophysics Laboratory;
15 Rickenbacker Causeway; Miami, FL 33149
(305) 361-3361, ext. 316

COLLECTION DESCRIPTION: Marine bedrock and bottom sediment samples
Data and Specimens
PURPOSE OF COLLECTION: Research, marine geology
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Atlantic Ocean; Caribbean Sea; Pacific Ocean
PRESAMPLING CONDITIONS: Described, photographs, mass physical properties, some organic chemistry studies
DATES OF SAMPLING: 1967 to present
NUMBER OF SAMPLES: 40-50 sediment cores, 15-25 rock specimens
RESULTS OF ANALYSES: Unconsolidated sediment
SAMPLING METHODS: Standard oceanographic coring and dredging devices
TEMPORARY CONTAINER: PVC barrels and polycarbonate barrels
TEMPORARY STORAGE PROCEDURES: Sample stored in barrel in which it was collected
DELAY BEFORE PERMANENT STORAGE: 1 wk to 6 months
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: 0 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic boxes
TEMPERATURE: 40 degrees C for some, room temperature for others
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite for certain properties
AVAILABILITY OF SAMPLES AND/OR DATA: Partially available
ADDITIONAL INFORMATION: Information on collection in files of NOAA, Environmental Data Services

<92>

COMPONENT OF INTEREST: TRACE ELEMENTS

<92>
Andrew B. Eaton
Dept. of Geological Sciences; California Institute of Technology; Pasadena, CA 91109
000

COLLECTION DESCRIPTION: Marine animals; marine bottom sediments; seawater samples
Data Collection Only
PURPOSE OF COLLECTION: Baseline and natural geochemical cycle of cadmium
SAMPLING LOCATION:
  GEOGRAPHICAL AREA: North Atlantic Ocean, W. of 36 degrees W., vertical profiles
DATES OF SAMPLING: 6/72 - 8/72
NUMBER OF SAMPLES: Marine 85, coastal 8, estuarine 12; sediments 12, biotan 50
RESULTS OF ANALYSES: Cd and Zn in organisms and sediments
SAMPLING METHODS: Seawaters sampled with 30 liter Niskin bottles (Teflon spring) or 180 liter Bodman bottle. Sediments taken with 21 cm diameter gravity corer, biota taken in standard midwater trawl
TEMPORARY CONTAINER: Polyethylene containers
TEMPORARY STORAGE PROCEDURES: Seawater; drawn through tygon tubing from sampling vessel into high density polyethylene container (acid washed), then filtered through MP HA filter
DELAY BEFORE PERMANENT STORAGE: 2-5 hours
PERMANENT STORAGE PREPARATION: Intact Storage
  CHEMICAL STABILIZATION: HCl, 25 mls 12N/10 liter; seawater, ACS reagent grade analyzed for Cd(<.02 ug/100 mls) and Zn(<.1 ug/100 mls)
AVAILABILITY OF SAMPLES AND/OR DATA: Data published in PhD thesis, Oct. 1974, Copy sent to NAWW

<93>
Kenneth Woltje
Branch Chief-Water Quality;U.S. Forest Service;633 West Wisconsin Ave.;Milwaukee WI 53203
(414) 224-3326

COLLECTION DESCRIPTION: Water samples from freshwater lakes, rivers, groundwater, and precipitation
Data Collection Only
PURPOSE OF COLLECTION: Water quality standards compliance, effects of forest management practices on water quality
SAMPLING LOCATION:
  GEOGRAPHICAL AREA: Northeastern United States; North Central United States
DATES OF SAMPLING: 1966 to present
NUMBER OF SAMPLES: 3,000 per year (30,000 parameters)
RESULTS OF ANALYSES: Water
SAMPLING METHODS: Automatic timed samples, grab samples, depth and profile samples (Van Dorn sampler and electronic probe)
TEMPORARY CONTAINER: Polyethlene
TEMPORARY STORAGE PROCEDURES: Refrigerated (acid or chloroform preserved)
DELAY BEFORE PERMANENT STORAGE: No permanent storage
  CHEMICAL STABILIZATION: SAMPLE PREPARATION: H(2)SO(4) conc.1 ml/liter;chloroform 2 ml./liter
AVAILABILITY OF SAMPLES AND/OR DATA: All data available by low-speed computer terminal, re. Environmental Protection Agency STORET system, Washington, D.C. (202/426-7792)

<94>
Allan D. Hartwell
Oceanography Dept.; Normandeau Associates, Inc.; Nashua Road; Bedford, NH 03102
(603) 472-5191

FORMAL NAME OF COLLECTION: Hydrographic Data File
COLLECTION DESCRIPTION: Bottom sediments from rivers, estuaries, and coastal areas; Water samples from rivers, estuaries, coastal, and marine waters
Data and Specimens
PURPOSE OF COLLECTION: Documentation of environmental studies for clients
SAMPLING LOCATION:
  STATE: Connecticut; New Hampshire; Maine; Vermont; Maryland
DATES OF SAMPLING: May 1972 to present
RESULTS OF ANALYSES: Metal contaminants and pesticides
SAMPLING METHODS: Cores taken with vibracores and phleger corer
TEMPORARY CONTAINER: Polyvinylchloride
TEMPORARY STORAGE PROCEDURES: Frozen in field; 1/2 kept frozen and other 1/2 thawed later for laboratory analysis
PERMANENT STORAGE PREPARATION: Fractionated
  FREEZING: -5 degrees C
PERMANENT STORAGE CONDITIONS:
  CONTAINER: Polyvinylchloride
  TEMPERATURE: Freezer plant
STORAGE LIFE OF SAMPLE: 9 months before dried up
AVAILABILITY OF SAMPLES AND/OR DATA: Most of the data is available in our files for use by the scientific community
ADDITIONAL INFORMATION: Hydrographic data is available from the following areas: Connecticut - New Haven, Bridgeport, Norwalk, and Stamford Harbors; New Hampshire - Hampton Harbor and coastal waters, Piscataqua River, Merrimack River, selected lakes; Massachusetts - Merrimack River Basin and Boston Harbor; Maine - Portland Harbor and Penobscot Bay; Vermont-selected reservoir impoundments; Maryland - Ocean City, coastal waters; Core data is available from: Maine - Portland Harbor; Sediment samples are available from: Connecticut - New Haven, Bridgeport, and Norwalk; New Hampshire - Hampton Harbor, Piscataqua River, Merrimack River; Maine - Portland Harbor

<95>
Bill Calloway
Ecological Services; Texas Instruments Inc.;P.O. Box 5621, MS 949;Dallas, TX 75222
(214) 238-4221

Data Collection Only
SAMPLING LOCATION:
RESULTS OF ANALYSES: Water and wastewater
SAMPLING METHODS: Van Dorn Sampler; J-Z Sampler for Bacteria
TEMPORARY CONTAINER: Water: polyethylene; Metals: teflon; Pesticides: glass
TEMPORARY STORAGE PROCEDURES: Frozen in dry ice; metals in HNO3; Pesticides cooled;
PERMANENT STORAGE PREPARATION: Intact Storage
  FREEZING: -20 degrees C
  LOW TEMPERATURE ASHING: 105 degrees C
  HIGH TEMPERATURE ASHING: 550 degrees C
  CHEMICAL STABILIZATION: Freezing or 4 degrees; chemical used when freezing impossible; metals; HNO3 5ml per liter.
PERMANENT STORAGE CONDITIONS:
  CONTAINER: None
STORAGE LIFE OF SAMPLE: Chemical analysis samples discarded after 7 days; metal analysis samples after 60 days (EPA criteria).

COMPONENT OF INTEREST: TRACE ELEMENTS

<96>
Bobby G. Wixson; J. Charles Jennett
Environmental Research Center;University of Missouri;Rolla, MO 65401
(314) 341-4483; (314) 341-4480

COLLECTION DESCRIPTION: Oligotrophic lake water; river water; lake and river bottom sediments; analyzed for Pb, Zn, Cd, and Cu.
Data and Specimens
PURPOSE OF COLLECTION: Transport of Pb, Zn, Cd, Cu & other metals from world's largest Pb-Zn mining district
SAMPLING LOCATION:
    STATE: Missouri
    GEOGRAPHICAL AREA: Clark National Forest
DATES OF SAMPLING: Fall, 1971 to present
NUMBER OF SAMPLES: Approx. 1000
SAMPLING METHODS: Grab samples
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Reagent grade HNO3, 1 ml per liter
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Polyethylene
    TEMPERATURE: 5 degrees C
    HUMIDITY: None
    LIGHT EXPOSURE: Dark
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Available upon request

<97>
Donald O. Whittemore
Dept. of Geology; Kansas State University;Thompson Hall; Manhattan, KS 66506
(913) 532-6724

COLLECTION DESCRIPTION: Soils; limestone and shale bedrock; small stream bottom sediments; stream and groundwater; rain; analyzed for Cr, Cu, Hg, Pb, As, Se
Data and Specimens
PURPOSE OF COLLECTION: Trace elements in natural waters of a coal burning power plant area presently being built-a research project
SAMPLING LOCATION:
    CITY: Belvue
    COUNTY: Pottawatomie
    STATE: Kansas
RESULTS OF ANALYSES: Soils, limestone and shale bedrock, small stream sediment
SAMPLING METHODS: Soils: coring; bedrock: near surface outcrop sampling; surface water: collection periodically at small stream sites; ground water: periodic collection from wells and springs; precipitation: plastic rain gages
TEMPORARY CONTAINER: Polyethylene rinsed with HNO(3)
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Preservation of water samples with HNO3 or HCl, 4 ml per liter, double distilled
    DRYING: Soils; air drying
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Polyethylene or glass for soil and sediment and bedrock samples
    TEMPERATURE: Room temperature
    STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Selected soil, sediment, and bedrock samples; Data will be published and presented at National meetings
ADDITIONAL INFORMATION: Also numerous collections of bedrock, fossil invertebrates and fossil algae from different geogrphic areas within the mid-continent (mainly Kansas, Oklahoma and Texas). These collections are primarily from geological formations of Permian and Carboniferous age and they may be examined by persons with proper credentials.

<98>
Chester C. Langway,Jr.
Cold Regions R-E Laboratory; P.O. Box 282; Hanover, NH 03755
(603) 643-3200, ext. 258

COLLECTION DESCRIPTION: Ice Cores
Data and Specimens
PURPOSE OF COLLECTION: Physical and chemical analyses; paleoclimatic information, base level and background chemistry
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Greenland; Antarctica
PRESAMPLING CONDITIONS: Meterological records of the inland ice sheets
DATES OF SAMPLING: 1956 to date
NUMBER OF SAMPLES: Cores range from 400 in to 2100 in. in length, from 8 ice sheet locations
SAMPLING METHODS: Core drilling
TEMPORARY CONTAINER: 7 to 12 cm diameter aluminum containers
PERMANENT STORAGE PREPARATION: Intact Storage
    FREEZING: 30 degrees C
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Cores, sheathed in polyethylene tubing, are placed in aluminum foil cylinders
    TEMPERATURE: 30 degrees C
STORAGE LIFE OF SAMPLE: Variable with each ice core
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and related data available

<99>
J. A. Warburton
University of Nevada;Desert Research Institute ;Reno,NV 89507
(702) 972-1676, ext. 66

COLLECTION DESCRIPTION: Lake and river water; physical and chemical air particulate analysis; precipitation
Data Collection Only
PURPOSE OF COLLECTION: Base-line and operational concentrations of trace heavy metals
SAMPLING LOCATION:
    STATE: Montana; New York; Florida
    GEOGRAPHICAL AREA: Siera Nevada Mtns.; Rockies Mtns.; Antarctica; Australia
DATES OF SAMPLING: 1967 to 1974
NUMBER OF SAMPLES: 1000
RESULTS OF ANALYSES: Snow, Rainwater, Ice
SAMPLING METHODS: Coring, collection on plastic surfaces
TEMPORARY CONTAINER: Polyethylene in deepfreeze
TEMPORARY STORAGE PROCEDURES: Most samples collected are already frozen - if not they are frozen within 1 hour period
PERMANENT STORAGE PREPARATION: Fractionated
    CHEMICAL STABILIZATION: Ion exchange; 2 part per trillion
    OTHER: Elution followed by activation analysis or flameless atomic absorption
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Parafilm plastic
STORAGE LIFE OF SAMPLE: Up to 2 years frozen
AVAILABILITY OF SAMPLES AND/OR DATA: Readily available

<100>

COMPONENT OF INTEREST: TRACE ELEMENTS

<100>
Sulo Wiitala
U.S. Geological Survey; Water Resources Division;
P.O. Box 1230; Iowa City, IA 52240
(319) 338-0581, ext. 521; FTS (319) 338-5521

COLLECTION DESCRIPTION: Water quality data
Data Collection Only
PURPOSE OF COLLECTION: Monitor water quality
SAMPLING LOCATION:
    STATE: Iowa
AVAILABILITY OF SAMPLES AND/OR DATA: Published
PUBLICATIONS: Water Resources Data for Iowa. Part 2: Water Quality Records, United States Dept. of the Interior Geological Survey, Water Resources Division. Published anually
ADDITIONAL INFORMATION: Please advise if you wish to be placed on mailing list for annual publication of "Water Resources Data for Iowa".

<101>
W. . Schultz
Laboratory Director; WV Dept. of Natural Resources; Division of Water Rescurces;1201 Greenbrier St.;Charleston, WV 25311
(304) 348-2837

COLLECTION DESCRIPTION: Water samples
Data Collection Only
PURPOSE OF COLLECTION: Pollution control and background data
SAMPLING LOCATION:
    STATE: West Virginia
DATES OF SAMPLING: 1960 to 1974
NUMBER OF SAMPLES: Each 6 weeks - monthly
SAMPLING METHODS: Grab
TEMPORARY CONTAINER: Plastic
TEMPORARY STORAGE PROCEDURES: Refrigerate in field or other preservative.
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: As per Standard Methods 13th Edition
    RADIATION: Cs 137
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Map, station locations, and analyses of samples are available.

<102>
Bruce H. Troup
Dept. of Earth Sciences;Case Western Reserve University; Cleveland, OH 44106
(216) 368-3688; (216) 368-4040

COLLECTION DESCRIPTION: River water pollutants
Data Collection Only
PURPOSE OF COLLECTION: Study of nearshore diffusion of pollutants from river into lake
SAMPLING LOCATION:
    CITY: Cleveland
    COUNTY: Cuyahoga
    STATE: Ohio
    GEOGRAPHICAL AREA: Cuyahoga River; Cleveland Harbor
DATES OF SAMPLING: April 1974 to present
NUMBER OF SAMPLES: 500
RESULTS OF ANALYSES: Highly variable; depends on season and river flow rate; Cl; O2; pH
SAMPLING METHODS: Plastic water sampler
TEMPORARY CONTAINER: Polyethylene
TEMPORARY STORAGE PROCEDURES: Water filtered through 0.45 um Milipore filters
DELAY BEFORE PERMANENT STORAGE: No permanent storage, maximum of 1 week before analysis
PERMANENT STORAGE PREPARATION: Fractionated
    OTHER: Filters disposed of, filtrate saved for analysis
PERMANENT STORAGE CONDITIONS: No permanent storage
AVAILABILITY OF SAMPLES AND/OR DATA: Data will be available by end of year

<103>
Reed A. Edwards
Southern Services Inc.;P.O. Box 2625;Birmingham, AL 32502
(205) 870-6329

FORMAL NAME OF COLLECTION: Gulf Power Co.; P.O. Box 1151; Pensacola, FL 32520
COLLECTION DESCRIPTION: Estuarine seawater samples
Data Collection Only
PURPOSE OF COLLECTION: Chemical analysis
SAMPLING LOCATION:
    CITY: Pensacola
    COUNTY: Escambia
    STATE: Florida
DATES OF SAMPLING: January 1 1974 to Present
NUMBER OF SAMPLES: 6 samples per month (72)
SAMPLING METHODS: Grab samples

<104>
Fred Lettice
940 West Main;El Centro, CA 92243
(714) 352-3610, ext. 242

COLLECTION DESCRIPTION: Ozone, SO2, particulates, and particulate lead air quality measurements.
Data Collection Only
PURPOSE OF COLLECTION: To determine if Imperial County meets the ambient air quality standards
SAMPLING LOCATION:
    CITY: Centro; Brawley; Calexico
    COUNTY: Imperial
    STATE: California
DATES OF SAMPLING: 1973 to present
SAMPLING METHODS: Ozone and SO2 is sampled continuously with monitors; particulate matter and particulate lead is sampled using high volume samplers
TEMPORARY STORAGE PROCEDURES: Data is stored on paper recording tape and monthly forms
AVAILABILITY OF SAMPLES AND/OR DATA: Data is available upon request

<105>
Sacramento County Health Agency
6730 Folsom Blvd.; Sacramento, CA 95819
(916) 454-5458

COLLECTION DESCRIPTION: Air particulate samples
Data and Specimens
PURPOSE OF COLLECTION: To determine amount of particulate matter in ambient air
SAMPLING LOCATION:
    CITY: Sacramento
    COUNTY: Sacramento
    STATE: California
DATES OF SAMPLING: 1971 to present
NUMBER OF SAMPLES: 1 filter per 6 days; 2 tapes every 2 hours for 2 hours
SAMPLING METHODS: Vacuum pumps
TEMPORARY CONTAINER: Paper boxes
PERMANENT STORAGE CONDITIONS:
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite (permanent for incrganics)
AVAILABILITY OF SAMPLES AND/OR DATA: No limit

COMPONENT OF INTEREST: TRACE ELEMENTS

<106>
Jerome J. Wesolowski
Air and Industrial Hygiene Laboratory; California State Health Dept.; 2151 Berkeley Way; Berkeley, CA 94704
(415) 843-7900, ext. 545

COLLECTION DESCRIPTION: Aerosol samples
Data and Specimens
PURPOSE OF COLLECTION: To characterize Los Angeles aerosols
SAMPLING LOCATION:
    CITY: Los Angeles
    STATE: California
DATES OF SAMPLING: 1969 to present
NUMBER OF SAMPLES: Several thousand
SAMPLING METHODS: Aerosol samplers
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Sealed plastic
    TEMPERATURE: None
    HUMIDITY: None
    LIGHT EXPOSURE: Dark
    STORAGE MEDIA: Filter paper
AVAILABILITY OF SAMPLES AND/OR DATA: Most can be made available

<107>
T.L. Montgomery
Air Quality Branch; TVA; River Oaks Bldg.;Muscle Shoals, AL 35660
(205) 383-4631, ext. 255

COLLECTION DESCRIPTION: Air samples, suspended particulates
Data and Specimens
PURPOSE OF COLLECTION: Chemical analysis, monitoring
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Southeastern United States
PRESAMPLING CONDITIONS: Near coal-fired power plants and remote locations in TVA areas
DATES OF SAMPLING: January 1972 to August 1976
NUMBER OF SAMPLES: 60/week
RESULTS OF ANALYSES: Weight of particulates and sulfates
SAMPLING METHODS: High volume samplers
TEMPORARY CONTAINER: Brown envelopes
TEMPORARY STORAGE PROCEDURES: The high-volume filters are folded and placed in envelopes and filed in storage cabinets.
DELAY BEFORE PERMANENT STORAGE: Entire time of storage
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: Air dried
PERMANENT STORAGE CONDITIONS:
    CONTAINER: File Cabinets
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Data available and some samples

<108>
Robert Duce
Graduate School of Oceanography; University of Rhode Island; Kingston, RI 02881
(401) 789-0911

COLLECTION DESCRIPTION: Atmospheric particulate samples, measurement of physical and chemical parameters
Data and Specimens
PURPOSE OF COLLECTION: Chemical Analysis
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: North Atlantic Ocean; Bermuda
DATES OF SAMPLING: 1972 to present
NUMBER OF SAMPLES: Approx. 300
SAMPLING METHODS: Collected on 8 x 10 in. double Whatman 41 filter papers
TEMPORARY CONTAINER: Polyethylene bags; boxes
TEMPORARY STORAGE PROCEDURES: Freezer storage
DELAY BEFORE PERMANENT STORAGE: Approx. 1 mo.
PERMANENT STORAGE PREPARATION: Intact Storage
    FREEZING: -15 degrees C
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Polyethylene bags; boxes
    TEMPERATURE: Freezer, normal control
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Unknown; likely years for trace metals
AVAILABILITY OF SAMPLES AND/OR DATA: Small sections of filters may be available after discussion with R. Duce

<109>
Arvid Ek
Allegheny County Health Dept.; Bur. of Air Poll. Cont.; 301 39th Street; Pittsburgh, PA 15201
(412) 681-9600, ext 95

COLLECTION DESCRIPTION: Air samples
PURPOSE OF COLLECTION: Reference
SAMPLING LOCATION:
    CITY: Pittsburgh
    COUNTY: Allegheny
    STATE: Pennsylvania
    GEOGRAPHICAL AREA: Approximately 20 locations
NUMBER OF SAMPLES: 1200 approximate
SAMPLING METHODS: High volume sampler
TEMPORARY CONTAINER: Paper envelopes
TEMPORARY STORAGE PROCEDURES: 24-hour desicator equilibration before weighing, then proper analysis made on specimen
DELAY BEFORE PERMANENT STORAGE: 48 hours
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Paper envelopes
    TEMPERATURE: 20 degrees C
    HUMIDITY: 50%
    LIGHT EXPOSURE: Darkness when possible
    STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Samples at present time have been stored since 1969 - possible availability upon request, if not in conflict with future plans of analysis

<110>
Walter Loveland
Radiation Center; Oregon State University; Corvallis, OR 97331
(503) 754-2341

COLLECTION DESCRIPTION: Chemical air particulates; trace elements
Data and Specimens
PURPOSE OF COLLECTION: Chemical Analysis
SAMPLING LOCATION:
    COUNTY: Linn; Benton
    STATE: Oregon
PRESAMPLING CONDITIONS: Some inversion conditions
DATES OF SAMPLING: January, 1972 to present; 7AM - 9PM
NUMBER OF SAMPLES: Approx. 1000
RESULTS OF ANALYSES: 20 trace elements measured in each sample
SAMPLING METHODS: High-volume air sample, Andersen cascade impactors, paper tape samplers
TEMPORARY CONTAINER: Polyethylene
TEMPORARY STORAGE PROCEDURES: Transported to clean room for packaging.
DELAY BEFORE PERMANENT STORAGE: Approx. 2 months
PERMANENT STORAGE PREPARATION: Intact Storage
    RADIATION: 10 to the 16th power n.v.t
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Polyethylene
    TEMPERATURE: None
    HUMIDITY: None
    LIGHT EXPOSURE: Dark
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Not known
AVAILABILITY OF SAMPLES AND/OR DATA: Complete availability of both data and samples
ADDITIONAL INFORMATION: Neutron activation analysis

COMPONENT OF INTEREST: PESTICIDES
(SEE ALSO 1, 2, 9, 10, 12, 18, 19, 25, 28, 32, 35, 37, 38, 39, 40, 41, 42, 47, 48, 54, 93, 94, 95, 98, 105, 141, 147, 185, 208, 215, 216, 217, 233, 510, 655)

<111>
Robert A. Lewis; Allen S. LeFohn
National Ecological Research Lab.; 200 S.W. 35th Street; Corvallis, OR 97330
(503) 752-4401

COLLECTION DESCRIPTION: Tissue and data for birds and mammals, frozen commercial honey bees, destructive sampling of bird and mammal carcasses; data for gaseous air, physical, chemical, and biological air particulate analysis, and precipitation
Data and Specimens
PURPOSE OF COLLECTION: Tissue bank to support in-house air pollution study
SAMPLING LOCATION:
    COUNTY: Rose Bud; Powder river
    STATE: Montana
PRESAMPLING CONDITIONS: Wild animals
DATES OF SAMPLING: Mostly April to November; (some winter specimens)
NUMBER OF SAMPLES: Several hundred per year
TEMPORARY CONTAINER: Frozen, fixed, then imbedded in paraplast
DELAY BEFORE PERMANENT STORAGE: Usually no more than 2-3 weeks
PERMANENT STORAGE PREPARATION: Intact Storage
    FREEZING: -5 degrees C
    OTHER: Whole frozen honey bees assayed for S, F, ACHE, and pesticide burden; bird and mammal carcasses assayed for lipids, water, biometrics
PERMANENT STORAGE CONDITIONS:
STORAGE LIFE OF SAMPLE: Indefinite but variable
AVAILABILITY OF SAMPLES AND/OR DATA: Not at the present time-this a new program and lab processing of tissues is just beginning.

<112>
C.S. Giam
Dept. of Chemistry;College of Science;Texas A&M University;College Station, TX 77843
(713) 845-5235

COLLECTION DESCRIPTION: Aquatic and marine plants; marine vertebrates and invertebrates; River, estuarine and marine bottom sediments; Seawater and air samples
Data Collection Only
PURPOSE OF COLLECTION: To analyze for organic pollutant distribution
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Gulf of Mexico
DATES OF SAMPLING: 1971 to present
NUMBER OF SAMPLES: 40 to 100 per year
RESULTS OF ANALYSES: Trace organics
SAMPLING METHODS: From ship or boat
TEMPORARY CONTAINER: Glass jars
TEMPORARY STORAGE PROCEDURES: Precleaned containers
PERMANENT STORAGE PREPARATION: Homogenization
    FREEZING: 0-30 degrees C
    OTHER: Used as soon as thawed
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass jars
    TEMPERATURE: Freezer
    HUMIDITY: None
    LIGHT EXPOSURE: None
AVAILABILITY OF SAMPLES AND/OR DATA: Generally not available

<113>
John B. Dimond
Dept. of Biology; 312 Deering Hall; University of Maine; Orono, ME 04473
(207) 581-7704

COLLECTION DESCRIPTION: Data collected on aquatic and terrestrial plants; aquatic and terrestrial vertebrates and invertebrates including fish, birds, mammals and reptiles; soils and river bottom sediments
Data Collection Only
PURPOSE OF COLLECTION: Analysis for pesticide residues, particularly DDT
SAMPLING LOCATION:
    COUNTY: Aroostook
    STATE: Maine
    GEOGRAPHICAL AREA: Northern Maine forests
PRESAMPLING CONDITIONS: Known histories of DDT application plus control areas of no insecticide history
DATES OF SAMPLING: 1966-1973
NUMBER OF SAMPLES: Several hundred including soils and many organisms
SAMPLING METHODS: Sample methods variable depending on organism concerned; stratified by spray history
AVAILABILITY OF SAMPLES AND/OR DATA: Available on request

<114>
Robert E. West
Environmental Monitoring Lab;USDA, APHIS, PPC;P.O. Box 989;Gulfport, MS 39501
(601) 863-1972, ext. 6137

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial vertebrates and invertebrates; Bottom sediments from lakes, rivers, and estuaries; Water samples from lakes, rivers, brackish water, estuaries, and coastal and marine areas
Data and Specimens
PURPOSE OF COLLECTION: Pesticide residue monitoring
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: United States
NUMBER OF SAMPLES: 3000 per year
SAMPLING METHODS: Japanese Mist nets, augers for soil, small animal traps, seines, etc.
TEMPORARY CONTAINER: Various types
TEMPORARY STORAGE PROCEDURES: Refrigeration, deep freeze, dry storage etc.
PERMANENT STORAGE PREPARATION: Intact Storage; Homogenization
    FREEZING: 0 degrees C
AVAILABILITY OF SAMPLES AND/OR DATA: Limited
ADDITIONAL INFORMATION: These samples are collected for pesticide residue monitoring and analysis. We try to keep original sample and sample extract for two years before disposing of same.

<115>

COMPONENT OF INTEREST: PESTICIDES

<115>
R. Rudd
Dept. of Zoology;University of California; Davis, CA 95616
(916) 752-1116

COLLECTION DESCRIPTION: Aquatic and terrestrial algae and spermatophytes; aquatic and terrestrial vertebrates and invertebrates; soils and lake bottom sediments; eutrophic lake water samples
Data and Specimens
PURPOSE OF COLLECTION: In connection with residue studies of pesticides; ecosystematic cycling
SAMPLING LOCATION:
COUNTY: Lake
STATE: California
GEOGRAPHICAL AREA: Baja California; Clear Lake
DATES OF SAMPLING: 1966 - 1973
NUMBER OF SAMPLES: Approx. 3000
DELAY BEFORE PERMANENT STORAGE: Minimal
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -80 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Sealed glass; or aluminum wrapping
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Both data and samples available on request
ADDITIONAL INFORMATION: Material based on grant supported research from U.S. Fish and Wildlife service and NSF

<116>
Philip Butler
Gulf Breeze Laboratory; Gulf Breeze, FL 32561
(904) 377-5268

FORMAL NAME OF COLLECTION: National Estuarine Monitoring Program, Pesticide Monitoring Laboratory, Bay St. Louis, MS 39520
COLLECTION DESCRIPTION: Estuarine finfish
Data and Specimens
PURPOSE OF COLLECTION: To determine pesticide residue levels in estuarine fish to establish baseline residue levels, and detect trends
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States; Virgin Islands; Puerto Rico
DATES OF SAMPLING: July, 1972 to present
NUMBER OF SAMPLES: Approx. 800 per year
RESULTS OF ANALYSES: Composite samples of herbivorous and carnivorous fish, analyzed for PCB's, mercury, lead, cadmium
SAMPLING METHODS: Trawls, nets, hook and line
TEMPORARY CONTAINER: Ground up and blended with dessicant to dry powder, sent immediately to laboratory in aluminum foil
TEMPORARY STORAGE PROCEDURES: Frozen until analyzed
PERMANENT STORAGE PREPARATION: Homogenized
HIGH TEMPERATURE ASHING: For mercury
PERMANENT STORAGE CONDITIONS:
CONTAINER: Aluminum foil (1/2 of each sample saved)
TEMPERATURE: Frozen
AVAILABILITY OF SAMPLES AND/OR DATA: Annual results published in open literature or by agency. Computerized data available on request to project officer
ADDITIONAL INFORMATION: 113 estuaries in U.S.,Puerto Rico and Virgin Islands are sampled

<117>
J.W. Hardin
Dept. of Botany; Gardner Hall; North Carolina State University; Raleigh, NC 27607
(919) 737-2226

FORMAL NAME OF COLLECTION: NCSU Herbarium Dept. of Botany, Gardner Hall 3207
COLLECTION DESCRIPTION: Algae, embryophytes, tracheophyte, pteridophytes, and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Research and teaching
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Southeastern United States
DATES OF SAMPLING: Approx. 1935 to present
NUMBER OF SAMPLES: 78,000
TEMPORARY STORAGE PROCEDURES: Dried with heat, storage with paradichlorobenzene
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Algae in alcohol or FAA
FUMIGATION: Paradichlorobenzene
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<118>
Donna M.E. Ware
Herbarium; Dept. of Biology; College of William and Mary; Williamsburg, VA 23185
(804) 229-300, ext. 240

COLLECTION DESCRIPTION: Aquatic and terrestrial embryophytes, tracheophytes, pteridophytes, and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Museum, reference, and taxonomic studies
SAMPLING LOCATION:
CITY: Newport News; Hampton; Williamsburg
COUNTY: New Kent; Charles City; York; James City
STATE: Virginia
GEOGRAPHICAL AREA: Southeastern United States
DATES OF SAMPLING: 1964 - 1974
NUMBER OF SAMPLES: 16,000 mounted specimens, representing about 3500 species
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: 1, 2 dichloroethane and carbon tetrachloride, 3:1
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal herbarium cases
TEMPERATURE: Room temperature
HUMIDITY: None
STORAGE MEDIA: Paradichlorobenzene
AVAILABILITY OF SAMPLES AND/OR DATA: To a limited extent seeds, fruits, flowers, etc. could be removed from specimens for special studies. However, I would be more amenable to making a special collection in answer to a request by a researcher (i.e. make a new collection in the field rather than sacrifice material already in the herbarium), where possible.

<119>
John D. Spooner
Dept. of Natural Sciences;University S. Carolina at Aiken; Aiken, SC 29801
(803) 648-6851

COLLECTION DESCRIPTION: Marine and terrestrial animals, fish, and insects; brackish water and seawater
Data and Specimens
PURPOSE OF COLLECTION: Reference and research collection
SAMPLING LOCATION:
    COUNTY: Aiken; Beaufort
    STATE: South Carolina
    CHEMICAL STABILIZATION: Formalin - fish
    DRYING: Insects
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Insect storage cabinets, fish in glass jars
AVAILABILITY OF SAMPLES AND/OR DATA: Limited availability due to smallness of collection and ongoing research

<120>
Harry C. Yeatman
Biology Dept.; University of the South; Sewanee, TN 37375
(615) 598-5333

COLLECTION DESCRIPTION: Bird eggs; Arthropods in amber
Data and Specimens
PURPOSE OF COLLECTION: Reference, research, and chemical analyses
SAMPLING LOCATION:
    STATE: Tennessee
    GEOGRAPHICAL AREA: Baltic (Germany)
DATES OF SAMPLING: Bird eggs collected over many years, dates of amber collection unknown
NUMBER OF SAMPLES: 1,000 bird eggs-Tn; hundreds of insects and other arthropods
SAMPLING METHODS: Collecting of bird eggs is noted in data with the collection
TEMPORARY CONTAINER: Bird eggs in trays in cases; amber collection in university safe
PERMANENT STORAGE PREPARATION: Intact Storage
AVAILABILITY OF SAMPLES AND/OR DATA: Available for qualified researchers but may not be removed from Woods Laboratory

<121>
Leigh H. Fredrickson
Gaylord Memorial Laboratory; University of Missouri; Rt1; Puxico, MO 63960
(314) 222-3203

COLLECTION DESCRIPTION: Aquatic and terrestrial vertebrates, invertebrates, and plants
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research; museum collection and pesticide survey in raccoons and some foods
SAMPLING LOCATION:
    STATE: Missouri
DATES OF SAMPLING: 1961 to present
PERMANENT STORAGE PREPARATION: Intact Storage
    FUMIGATION: Paradichlorobenzene
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Museum skins in museum cases
AVAILABILITY OF SAMPLES AND/OR DATA: Museum skins available for examination; pesticide information has be published

<122>
Frank A. Iwen
Zoological Museum; Dept. of Zoology; University of Wisconsin; Noland Zoology Bldg.; Madison, WI 53706
(608) 262-3766

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial vertebrates and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Synoptic collection within the university, also voucher materials derived from research
SAMPLING LOCATION:
    STATE: Alaska
    GEOGRAPHICAL AREA: United States; Central America
DATES OF SAMPLING: 1850's to present
NUMBER OF SAMPLES: Approx. 10,000 gross, slides, whole mounts.
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Neutral buffered formalin
    FUMIGATION: Paradichlorobenzene
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass; stainless steel
    TEMPERATURE: Yes
    HUMIDITY: Yes
    LIGHT EXPOSURE: Dark
AVAILABILITY OF SAMPLES AND/OR DATA: Complete access to anyone
ADDITIONAL INFORMATION: This facility stores any end all materials of biological or historical nature which are sent to it. We have century-old fish used as samples for background counts in pesticide studies, hundreds of jars of cetacean tissue of various sorts and species (which were collected synoptically and have been used not at all) and jars of preserved mice from the desert Southwest. We would be happy to enlarge upon the holdings in a specific sense if it would be of interest

<123>
Lovett E. Williams, Jr.
Game & Fresh Fish Comm, Wildlife Research Projects Office; 4005 S. Main St.; Gainesville, FL 32601
(904) 376-6481

COLLECTION DESCRIPTION: Birds and eggs
Data Collection Only
PURPOSE OF COLLECTION: Monitor levels of pesticides in food chains
SAMPLING LOCATION:
    STATE: Florida
DATES OF SAMPLING: 1970 to present
NUMBER OF SAMPLES: Approx. 1,000
SAMPLING METHODS: Free flying healthy adults, young, and eggs, also birds which were known to be sick or had died of unknown causes, were sampled
TEMPORARY STORAGE PROCEDURES: Tissues wrapped in foil and frozen or whole bird frozen until tissues removed
PERMANENT STORAGE PREPARATION: Intact Storage
    FREEZING: Minus 10 degrees C
AVAILABILITY OF SAMPLES AND/OR DATA: Data available
ADDITIONAL INFORMATION: Sampling done in cooperation with the Pesticide Research Laboratory of the University of Florida. Sampling has concentrated on brown pelicans but includes other birds, especially sea birds and will be expanding.

<124>

COMPONENT OF INTEREST: PESTICIDES

<124>
Peter M. Bourque
Maine Fish & Game Department; Fisheries Division; Station Street; Ashland, ME 04732
(207) 435-3231

COLLECTION DESCRIPTION: Freshwater fish
Specimens Only
PURPOSE OF COLLECTION: Collection of general interest to fishery biologists
SAMPLING LOCATION:
    COUNTY: Aroostook
    STATE: Maine
DATES OF SAMPLING: 1969 to present
NUMBER OF SAMPLES: 34 species
SAMPLING METHODS: Nets; electrofishing
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    STORAGE MEDIA: 10% formalin

<125>
Robert G. Heath
National Ocean Monitoring Program; Ecological Monitoring Branch; WH-569; U.S. Environmental Protection Agency; Washington, D.C. 20460
(202) 426-2632

COLLECTION DESCRIPTION: Marine fish livers
Data and Specimens
PURPOSE OF COLLECTION: To identify persistent, synthetic residues in commercial fish species and those intermediate in their food chain.
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Pacific Ocean; United States; Atlantic Ocean; Caribbean Sea; Offshore fishing grounds of the American fleet
DATES OF SAMPLING: 1974 (Pilot Program) One time for bench mark data
NUMBER OF SAMPLES: 250
RESULTS OF ANALYSES: Fish livers
SAMPLING METHODS: NOAA collected fish samples utilizing the scheduled resource survey cruises of the National Marine Fisheries Service.
TEMPORARY CONTAINER: Dessicated and sent immediately to laboratory in aluminum foil
TEMPORARY STORAGE PROCEDURES: Frozen until analysis
PERMANENT STORAGE PREPARATION: Homogenization
    HIGH TEMPERATURE ASHING: For mercury
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Aluminum foil
    TEMPERATURE: Freezing
AVAILABILITY OF SAMPLES AND/OR DATA: Will be available as a published progress report at end of analysis.

<126>
Edmund C. Aldridge, III
S.C. Dept. of Health & Environmental Control; 2600 Bull Street;Columbia, SC 29206
(803) 758-3499

COLLECTION DESCRIPTION: Freshwater and marine fish
Data and Specimens
PURPOSE OF COLLECTION: Monitoring possible pollution of S.C. waters
SAMPLING LOCATION:
    STATE: South Carolina
PRESAMPLING CONDITIONS: Chemical data on all locations, but no biological data prior to summer, 1974
DATES OF SAMPLING: Summer,1974
NUMBER OF SAMPLES: From 57 locations throughout state
RESULTS OF ANALYSES: Available
SAMPLING METHODS: 1/8 in. nylon mesh seine; 1/2 in. nylon mesh seine; gill nets; electrofishing
TEMPORARY STORAGE PROCEDURES: Fixed one week in 10% formalin, washed daily with water for 3 days, stored in 10% isopropyl alcohol with 3-5 drops Ionel color preservative
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass bottles w/plastic caps
    TEMPERATURE: 22 degrees C
    HUMIDITY: Approx. 30-60%
    LIGHT EXPOSURE: 16 hrs. light, 8 hrs. dark
    STORAGE MEDIA: Isopropyl alcohol, 10%
AVAILABILITY OF SAMPLES AND/OR DATA: With permission of SCDHEC

<127>
William G. Youatt
Michigan Dept. of Natural Resources; Wildlife Pathology Laboratory;East Lansing, MI 48823
(517) 641-4071

COLLECTION DESCRIPTION: Vertebrate tissues - duck and deer
Data and Specimens
PURPOSE OF COLLECTION: Metabolic and toxicology studies
SAMPLING LOCATION:
    STATE: Michigan
PRESAMPLING CONDITIONS: Captive wild white-tailed deer
DATES OF SAMPLING: 1970 to present
NUMBER OF SAMPLES: 200 Ducks, 400 deer sera
TEMPORARY CONTAINER: Plastic
TEMPORARY STORAGE PROCEDURES: Freezer
PERMANENT STORAGE PREPARATION: Intact Storage
    FREEZING: -20 degrees C
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Plastic
    TEMPERATURE: -20 degrees C
    HUMIDITY: None
    LIGHT EXPOSURE: Dark
AVAILABILITY OF SAMPLES AND/OR DATA: Conditionally available

COMPONENT OF INTEREST: PESTICIDES

<128>
Lloyd F. Kiff
Curator of Museum; Western Foundation of Vertebrate Zoology; 1100 Glendon Avenue; Los Angeles, CA 90024
(213) 477-2001; (213) 472-7869; (213) 454-3197

COLLECTION DESCRIPTION: Bird skins, eggs, and nests
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
PRESAMPLING CONDITIONS: Bird egg collection includes both pre- and post-DDT material.
DATES OF SAMPLING: Approx. 1850 to 1974
NUMBER OF SAMPLES: 25, 000 bird skins, 115, 000 sets of eggs, 12, 000 nests
RESULTS OF ANALYSES: Most post-DDT egg specimens in this collection show evidence of DDE, polychlorinated biphenyls, etc. Most current references on topic based partly on this collection.
SAMPLING METHODS: Most specimens obtained for reasons other than environmental monitoring purposes
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Facilities are open to any researcher. Data can be supplied to researchers upon request, depending upon volume of material needed
ADDITIONAL INFORMATION: Of our collections, the egg material has been and is currently being widely used for pesticide monitoring purposes, and it is highly likely that the skin and nest collections also have environmental monitoring applications. Both our egg and nest collections are by far the largest on the North American continent. All specimens in these collections are housed in conventional synoptic order, are accompanied by full field data, and are available for any legitimate research purpose, including, in some cases, techniques requiring destruction of the specimens. All three collections are worldwide in scope, but are naturally strongest for North America. They also contain important material from the Neotropical region and East Africa.

<129>
Edward Balsbaugh
Dept. of Entomology-Zoology; South Dakota State University; Brookings, SD 57006
(605) 688-6176

COLLECTION DESCRIPTION: Aquatic and terrestrial invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Teaching and reference
SAMPLING LOCATION:
STATE: South Dakota
PRESAMPLING CONDITIONS: Wild populations
DATES OF SAMPLING: 1950 to present
NUMBER OF SAMPLES: 7000
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Ambient
PERMANENT STORAGE CONDITIONS:
CONTAINER: Insect cases
HUMIDITY: Anhydrous salts
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Duplicate specimens are available

<130>
Charles A. King, Jr.
Research and Development; CIBA GEIGY Corp; 8233 Rosswood Dr.; Waco, TX 76710
(817) 772-6913

COLLECTION DESCRIPTION: Terrestrial insects
Specimens Only
PURPOSE OF COLLECTION: Enumeration of species
SAMPLING LOCATION:
CITY: Waco
COUNTY: McLennan
STATE: Texas
PRESAMPLING CONDITIONS: Virgin area - no insecticides
DATES OF SAMPLING: 1973 - 1974
NUMBER OF SAMPLES: Approx. 400
RESULTS OF ANALYSES: No analyses run
SAMPLING METHODS: Insect net
TEMPORARY STORAGE PROCEDURES: Specimens killed by cyanide gas, air dried and pinned
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Cyanide Gas
DRYING: Air
PERMANENT STORAGE CONDITIONS:
CONTAINER: Wood boxes
TEMPERATURE: 22 degrees C
HUMIDITY: None
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Paradichlorobenzene
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: This is an insect collection, dated as to time of collection and all specimens taken from the same locality (8233 Rosswood Dr.) about 400 specimens involved. You may have the collection if they are useful to you.

<131>
Frederick W. Kutz
National Human Monitoring Program; Ecological Monitoring Branch; WH-569; U.S. Environmental Protection Agency; Washington, DC 20460
(202) 426-2632

COLLECTION DESCRIPTION: Normal and diseased human organ tissues
Data and Specimens
PURPOSE OF COLLECTION: To determine on a national scale, levels of pesticide incidences in the general population and to assess changes in these levels.
SAMPLING LOCATION:
GEOGRAPHICAL AREA: 75 cities in contiguous U.S. with population more than 25,000;
United States
PRESAMPLING CONDITIONS: Height, weight, birthdate, sex, race, clinical pathology diagnosis, and occupation.
NUMBER OF SAMPLES: 2025
RESULTS OF ANALYSES: Adipose tissue on a regular basis. Also have sampled urine, blood serum, and liver.
SAMPLING METHODS: Pathologists recruited at random in selected states of the contiguous U.S. to collect samples of adipose tissue from postmortem examinations and from specimens previously removed during therapeutic surgery.
TEMPORARY CONTAINER: Pesticide residue-free, one-ounce jars, shipped packed in dry ice.
TEMPORARY STORAGE PROCEDURES: Stored at -4 degrees C without fixative before shipping.
PERMANENT STORAGE PREPARATION: Fractionated
FREEZING: -20 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass jars
TEMPERATURE: -20 degrees C
AVAILABILITY OF SAMPLES AND/OR DATA: Data available to both the scientific and lay community upon request to Project Officer.

<132>

COMPONENT OF INTEREST: PESTICIDES

<132>
Ann E. Carey
National Soils Monitoring Program; Ecological Monitoring Branch WH-569; Washington, DC 20460
(202) 426-2632

FORMAL NAME OF COLLECTION: National Soils Monitoring Program - U.S. Environmental Protection Agency, Pesticide Monitoring Lab., Bay St. Louis, Mississippi 39520
COLLECTION DESCRIPTION: Soil and water samples; crop plants
Data and Specimens
PURPOSE OF COLLECTION: To determine pesticide residue levels in agricultural soils of the U.S. and detect changes in levels and trends over time.
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
DATES OF SAMPLING: 1968 to present
NUMBER OF SAMPLES: Approx. 1533 cropland sites & 500 urban sites per year.
RESULTS OF ANALYSES: Soil, crop plants (if available) and pesticide application data collected from each site.
SAMPLING METHODS: 50 soil cores (5.1 x 7.6cm) taken on evenly-spaced grid pattern over each 4-ha. site. Cores thoroughly sieved (6mm mesh) and mixed, 2-liter subsample retained. URBAN: 16 cores on 4 x 4 grid on a 15.2 x 15.2 m plot. On cropland sites: data also taken on crop, kinds and amounts of pesticides and fertilizers applied during growing season. Composite crop sample also taken if available.
TEMPORARY CONTAINER: Soils, metal; crops, wrapped in aluminum foil inside plastic bags
TEMPORARY STORAGE PROCEDURES: Closed cans stored on open shelves at room temp. approximately 24-27 degrees C. Most crops frozen at 0 degrees C
PERMANENT STORAGE PREPARATION: Intact Storage
AVAILABILITY OF SAMPLES AND/OR DATA: Results of yearly sampling published in open literature and by agency. Residue results and pesticide application data computerized. Available upon request to Project Officer
ADDITIONAL INFORMATION: Samples extracted as soon as possible after receipt by lab., unextracted portion stored under conditions described above. Sample extracts (generally in hexane) stored at 0 degrees C until analysis. Samples from contiguous United States, cropland and noncropland sites, Urban Monitoring Program.

<133>
Han Tai; Gerald Gardner
Pesticide Monitoring Laboratory; Environmental Protection Agency; Mississippi Test Facility; Building 1105; Bay St. Louis, MS 39520
FTS (601) 688-3212

COLLECTION DESCRIPTION: Soil cores
Specimens Only
PURPOSE OF COLLECTION: Chemical anlaysis
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
PRESAMPLING CONDITIONS: Environmental samples, with pesticide use records
DATES OF SAMPLING: 1969 to 1974
NUMBER OF SAMPLES: Approx. 6000
SAMPLING METHODS: Core soil samples
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass jars
TEMPERATURE: Ambient
LIGHT EXPOSURE: Dim
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Monitoring data available

<134>
Russell S. Adams, Jr.
Soil Science; University of Minnesota; Institute of Agriculture; St. Paul, MN 55101
(612) 373-1361

COLLECTION DESCRIPTION: Soil samples for pesticide study
Data and Specimens
PURPOSE OF COLLECTION: Soil samples varying widely in properties influencing pesticide behavior typical of type throughout Minnesota
SAMPLING LOCATION:
STATE: Minnesota
PRESAMPLING CONDITIONS: No known use of pesticides the previous 5 years and anticipated less prospect of future use of pesticides
DATES OF SAMPLING: 16 sampled in 1965 replenished from time to time since that date
SAMPLING METHODS: Large batch at one precise location
PERMANENT STORAGE CONDITIONS:
CONTAINER: Cardboard or plastic
TEMPERATURE: Ambient
HUMIDITY: Ambient
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: On request, if sufficient available
PUBLICATIONS: Pluth, D.J.; R.S. Adams, Jr.; R.H. Rust; and J.R. Peterson. Characteristics of Selected Horizons from 16 Soil Series in Minnesota. Technical Bulletin No. 272, Agricultural Experiment Station, University of Minnesota, 1970.

<135>
Daniel B. Sass
P.O. Box 851; Alfred University; Alfred, NY 14802
(607) 871-2203

COLLECTION DESCRIPTION: Data on pesticide pollution in lake bottom sediments and oligotrophic lake water
Data Collection Only
PURPOSE OF COLLECTION: Analysis of possible pollution due to the use of pesticides
SAMPLING LOCATION:
CITY: Watkins Glen
COUNTY: Schuyler
STATE: New York
GEOGRAPHICAL AREA: Southern 3 miles of Seneca Lake
PRESAMPLING CONDITIONS: Available
DATES OF SAMPLING: September through December 1968
NUMBER OF SAMPLES: 30
SAMPLING METHODS: Ponar dredge
TEMPORARY CONTAINER: Polyethylene bags
TEMPORARY STORAGE PROCEDURES: Kept in refrigerator
DELAY BEFORE PERMANENT STORAGE: 3 to 4 weeks
PERMANENT STORAGE CONDITIONS: Samples not retained
AVAILABILITY OF SAMPLES AND/OR DATA: Data available

COMPONENT OF INTEREST: PESTICIDES

<136>
Robert Heath
Ecological Monitoring Branch-WH-569,; U.S.
Environmental Protection Agency; Washington, DC
20460
(202) 426-2632

FORMAL NAME OF COLLECTION: National Water Monitoring Program, Pesticides Monitoring Laboratory, Bay St. Louis, Mississippi 39520
COLLECTION DESCRIPTION: River water and bottom sediment samples
Data and Specimens
PURPOSE OF COLLECTION: Continuing assessment of the general levels of pesticides in runoff and bottom sediments of the Nation's rivers and to identify possible problem areas
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: United States, 162 stations
DATES OF SAMPLING: 1972 to present
NUMBER OF SAMPLES: 162 water samples quarterly and 162 sediment semi-annually
RESULTS OF ANALYSES: Water, sediment
SAMPLING METHODS: Depth-integrated water sampler for water. Sediment: weighted dredge designed to retain fine materials.
TEMPORARY CONTAINER: Shipped in protective packing cases as soon as possible after collection. At lab, stored under refrigeration until extraction.
PERMANENT STORAGE PREPARATION: Fractionated
AVAILABILITY OF SAMPLES AND/OR DATA: Results published
PUBLICATIONS: Pesticides Monitoring Journal, 5:1, June 1971 pp. 59-62. 204

<137>
V.G. Burrell, Jr.
Division of Marine Resources; P.O. Box 12599;
Charleston, SC 29412
(803) 795-6350

FORMAL NAME OF COLLECTION: MARMAP and Estuarine Survey Collections
COLLECTION DESCRIPTION: Data on marine vertebrates and invertebrates, and estuarine, coastal, and marine seawater; samples of marine invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Establishing scientific base line information for S.C. Coast, MARMAP Program
SAMPLING LOCATION:
    STATE: South Carolina
    GEOGRAPHICAL AREA: Southeast Atlantic Ocean; Continental Shelf
DATES OF SAMPLING: 1973 to present, programs ongoing
NUMBER OF SAMPLES: Extensive
SAMPLING METHODS: Bottom and midwater trawls, half meter and Clarke-Bumpers plankton samplers, Van Dorn water samplers, Petersen and modified oyster dredges.
TEMPORARY STORAGE PROCEDURES: Various preservatives or dry ice freezing
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Generally formalin
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass or plastic
    STORAGE MEDIA: Generally formaldehyde
AVAILABILITY OF SAMPLES AND/OR DATA: Limited

<1[illegible]>
Robert G. Heath
National Air Monitoring Program; Ecological
Monitoring Branch; WH-569; U.S. Environmental
Protection Agency, Washington, DC 20460
(202) 426-2632

COLLECTION DESCRIPTION: Gaseous air; chemical air particulates; precipitation samples
Data and Specimens
PURPOSE OF COLLECTION: To determine pesticide residues in ambient air on a national basis and detect changes in levels over time.
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: 29 states, arbitrarily chosen from contiguous 48 states; United States
PRESAMPLING CONDITIONS: Data on weather conditions (max. -min. temps., wind speed and direction, humidity and precipitation) in effect at the sampling location during each sampling period.
DATES OF SAMPLING: 1970 to 1972, Suspended until completion of field evaluation study and redesigning of program.
NUMBER OF SAMPLES: 1000/year
RESULTS OF ANALYSES: Ambient Air
SAMPLING METHODS: Impinger-type air sampler using ethylene glycol as collecting medium
TEMPORARY CONTAINER: Glass
TEMPORARY STORAGE PROCEDURES: Room temperature
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Ethylene glycol as solvent 100 ml, Pesticide-quality grade
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    TEMPERATURE: -20 degrees C
    STORAGE MEDIA: Pesticide-quality ethylene glycol
AVAILABILITY OF SAMPLES AND/OR DATA: Results of sampling published in open literature and by agency. Residue results computerized available upon request to Robert G. Heath

COMPONENT OF INTEREST: MICROBIOLOGY
(SEE ALSO 1, 7, 11, 12, 18, 23, 28, 31, 39, 74, 78, 80, 81, 91, 98, 100, 141, 190, 214, 215, 236, 239, 241, 380)

<139>
David L. Nelson
U.S. Forest Service; Forestry Sciences
Laboratory; 860 [illegible]; Logan, UT 84321
(801) 752-1311

COLLECTION DESCRIPTION: Conifer rust, fungi and hosts
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
CITY: Logan
COUNTY: Cache
STATE: Utah
DATES OF SAMPLING: 1960 to present
NUMBER OF SAMPLES: No record; many
TEMPORARY CONTAINER: Plant press
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Moth balls
DRYING: Dried samples
PERMANENT STORAGE CONDITIONS:
CONTAINER: Herbarium
TEMPERATURE: Ambient
HUMIDITY: Ambient
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Air; moth balls
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Not available

<140>
Marie B. Abbott
George Gray Museum; Marine Biological Lab.;Woods
Hole, MA 02543
(617) 548-3705, ext. 508, 531

COLLECTION DESCRIPTION: Flora and fauna of northeastern North American shelf waters.
Data and Specimens
PURPOSE OF COLLECTION: Research and reference collection, authenticated by experts
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Gulf of Maine to Hudson Canyon; salt marsh to 200 m depth
PRESAMPLING CONDITIONS: Not known, but most non-estuarine samples were taken before major pollution was probably a factor
DATES OF SAMPLING: 1930 to present
NUMBER OF SAMPLES: Approx. 650 herbarium sheets 12,000 zoological specimens
SAMPLING METHODS: Standard quantitative and qualitative bottom and surface sampling gear. In one series of samples (Cape Cod Bay) a one-mile square grid was laid out, with centers and all corners sampled; excellent accompanying ecological data
TEMPORARY CONTAINER: Open sea-water table
DELAY BEFORE PERMANENT STORAGE: One hour to several days or even weeks, when living material is being used for research
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Borax or hexamine to buffer ethanol; 2% borax, 6%; commercial
DRYING: Many large crustacea and echinoderms, some mollusks air dryed
OTHER: MgSO(4) widely used to relax animals
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass jars, plastic pill vials, plastic bags; genus covers for plants
TEMPERATURE: 65 degrees - 68 degrees year round
HUMIDITY: Formaldehyde, buffered ethanol (70% - 85%)
LIGHT EXPOSURE: Intermittant fluorescent light
STORAGE LIFE OF SAMPLE: Approx 80-100 years
AVAILABILITY OF SAMPLES AND/OR DATA: No restrictions, within reasonable time limits to qualified systematists and graduate students. Open to profit-making institutions or their representatives with consultation fee.
ADDITIONAL INFORMATION: Evaluation of museum available 1 February 1975

<141>
William Stanwood Cath
Executive Secretary;National Association of State
Departments of Agriculture;1616 H Street,NW;
Washington, DC 20006
(202) 628-1566

COLLECTION DESCRIPTION: Microorganisms; fungi; terrestrial vertebrates; soils; groundwater samples
Data and Specimens
PURPOSE OF COLLECTION: Analysis for disease, contamination, and chemical and physical properties
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
AVAILABILITY OF SAMPLES AND/OR DATA: Data available
ADDITIONAL INFORMATION: Plants, animals, chemicals and food and kindred products for consumer protection and safety

<142>
Charles L. Coughenour
Cayuga County Health Dept.; Cayuga County
Environmental Health; Genessee Street; Auburn, NY
13021
(315) 253-1351

COLLECTION DESCRIPTION: Air samples; mammalian and human tissue samples; water and air samples analyzed for chemical, bacteriological and physical characterization
Data and Specimens
PURPOSE OF COLLECTION: Maintain public health
SAMPLING LOCATION:
COUNTY: Cayuga County
DATES OF SAMPLING: Animal and water 1964 to present; air samples 1970 to present
NUMBER OF SAMPLES: Air samples (266); chemical (35); bacteria (45); year 1973
RESULTS OF ANALYSES: Coliform, phosphates, nitrates, nitrites, rabies specimens, encephalitis, salmonella, and sulfur dioxide
SAMPLING METHODS: Chemically treated bottles with sodium thiosulfate for bacti samples and regular bottles for chemical samples
TEMPORARY CONTAINER: Ice chest 0 degrees C
TEMPORARY STORAGE PROCEDURES: packed in ice
DELAY BEFORE PERMANENT STORAGE: 4 hrs
STORAGE LIFE OF SAMPLE: 24 hrs.
AVAILABILITY OF SAMPLES AND/OR DATA: By written request with valid credentials
ADDITIONAL INFORMATION: Chemical water sample form attached

<141>

COMPONENT OF INTEREST: MICROBIOLOGY

<143>
Will J. Cloud
Dept. of Biology; Carson-Newman College; Jefferson City, TN 37760
(615) 475-9061, ext. 258

COLLECTION DESCRIPTION: Aquatic and terrestrial vertebrates; bacteria; human bones and organs; water from freshwater lakes and rivers; aquatic, marine, and terrestrial algae, fungi, lichens, schizophytes, bryophytes, tracheophytes, pteridophytes, and spermatophytes
Specimens Only
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
CITY: Jefferson City
COUNTY: Jefferson
STATE: Tennessee
TEMPORARY STORAGE PROCEDURES: Keep in refrigerator or appropriate place
PERMANENT STORAGE PREPARATION: Intact Storage

<144>
Jay L. Harmic
Marco Applied Marine Ecology Station; N. Barfield Dr; Marco Island, FL 33937
(813) 394-2795

COLLECTION DESCRIPTION: Marine plants and animals; marine bottom sediments; freshwater, river and coastal seawater samples; precipitation samples
Data and Specimens
PURPOSE OF COLLECTION: Biological and chemical monitoring survey
SAMPLING LOCATION:
CITY: Marco Island; Citrus Springs
COUNTY: Collier; Citrus
STATE: Florida
PRESAMPLING CONDITIONS: Pre and post development of mangrove habitat
DATES OF SAMPLING: June 1971 to Present
NUMBER OF SAMPLES: Water quality-monthly; biological-monthly and quarterly; climatological-continuous
SAMPLING METHODS: Coring; seining, netting, trawling, cut-bonning, artificial substrate, water sample, fishing
TEMPORARY CONTAINER: Glass vials and jars
TEMPORARY STORAGE PROCEDURES: Preserved in 10% formaldehyde
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass vials; jars
TEMPERATURE: Room temperature
HUMIDITY: 60% RH
LIGHT EXPOSURE: Indirect lighting
STORAGE MEDIA: 50% isopropyl alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Available
PUBLICATIONS: Annual Report, Marco Applied Marine Ecology Station. The Deltona Corporation, 1976
ADDITIONAL INFORMATION: Species list, program, other pertinent data will be forthcoming in annual report

<145>
Richard H. Davis
Caesar Kleberg Chair Ecology; Texas A&I University; Box 2178; Kingsville, TX 78363
(512) 595-3803

COLLECTION DESCRIPTION: Bacteria; aquatic, marine, and terrestrial tracheophytes, pteridophytes, spermatophytes; vertebrates and invertebrates; soils
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Southwest United States; Gulf of Mexico
DATES OF SAMPLING: Plants-1920 to present; Invertebrates-1962 to present; Vertebrates-1960 to present
NUMBER OF SAMPLES: Many
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Yes
OTHER: Live (for microorganisms)
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and data available for all collections except bacteria, for which only samples are available

<146>
Douglas L. Mitchum
Wyoming Game & Fish Commission; University Station P.O. Box 3312; Laramie, WY 82071
(307) 745-[illegible]

COLLECTION DESCRIPTION: Viruses, bacteria and fungi from diseased fish
Data and Specimens
SCIENTIFIC NAME: Tissue: RTG-2 cells (rainbow trout gonad). Microorganisms: viruses - infectious pancreatic necrosis of salmonids - Infectious hematopoietic necrosis of salmonids. Bacteria - Aeromonas liquefaciens, Aeromonas salmonicida, corynebacterial kidney disease, enteric redmouth disease, Pseudomonas fluorescens. Plants: Saprolegnia sp.
PURPOSE OF COLLECTION: Stock culture collection; Museum collection; Standard controls
SAMPLING LOCATION:
STATE: Wyoming
PRESAMPLING CONDITIONS: Diseased fish specimens
DATES OF SAMPLING: Approx. past 10 years
NUMBER OF SAMPLES: 2-3 cultures of each
SAMPLING METHODS: Disease diagnoses (fish)
TEMPORARY CONTAINER: Glass or plastic vials
TEMPORARY STORAGE PROCEDURES: Refrigeration and/or freezing; Fungi - 10% formalin
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: 100 degree C (Revco freezer)
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Fungi - formaldehyde; Viruses - Minimum essential medium - RTG-2 cells; Bacteria - Usually TSA media
AVAILABILITY OF SAMPLES AND/OR DATA: Available

COMPONENT OF INTEREST: MICROBIOLOGY

<147>
E.G. Gregory
Bureau of Environmental Health; Nye Bldg.; 201
South Fall St.; Carson City, NV 89701
(702) 885-4750

COLLECTION DESCRIPTION: Bacteria; aquatic algae; aquatic animals; lake and river bottom sediments; eutrophic and oligotrophic freshwater lakes; river-, ground-, and brackish-water; gaseous and physical and chemical particulate air samples.
Data and Specimens
PURPOSE OF COLLECTION: Background water & air quality data for standards evaluation and enforcement
SAMPLING LOCATION:
    STATE: Nevada
DATES OF SAMPLING: Water-1966 to present; Air-1970 to present
NUMBER OF SAMPLES: Approx. 600 water; 1500 air per year
SAMPLING METHODS: Methods from "Standard Methods for Examination of Water and Wastewater" APHA, AWWA, ed 13 (1971) and recommended methods from EPA (various manuals) for air and water
TEMPORARY CONTAINER: Polyethylene or glass bottles
TEMPORARY STORAGE PROCEDURES: Immediate analysis
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Mercuric chloride 400mg -1, reagent grade
AVAILABILITY OF SAMPLES AND/OR DATA: Data available
ADDITIONAL INFORMATION: Sample analysis: Air: CO; NOX; hydrocarbons; particulates; SO2; Water: temperature; pH; D.O.; BOD; Cl; PO4; NO3; HCO3; CO3; color; turbidity; N

<148>
Stanley Gessel
College of Forest Resources; University of Washington;Seattle, WA 98195
(206)543-2730

COLLECTION DESCRIPTION: Aquatic and terrestrial plants; aquatic and terrestrial vertebrates and invertebrates; soils, bedrock, organic detritus; lake and river bottom sediments; eutrophic, oligotrophic, and dystrophic lake water; river and ground water; physical, chemical, and biological air particulate analysis; precipitation
Data Collection Only
PURPOSE OF COLLECTION: Study of ecosystem structure and behavior in western coniferous forests
SAMPLING LOCATION:
    CITY: Issaquah,WA; McKenzie Bridge,OR
    COUNTY: King, WA; Lane,OR
    STATE: Washington; Oregon
    GEOGRAPHICAL AREA: Cedar River; Lake Washington; H.J. Andrews Forest; Lake Washington; Lake Sammamish; Lake Chester Morse; Findley Lake
DATES OF SAMPLING: Jan. 1970 to present
NUMBER OF SAMPLES: Many 100's
AVAILABILITY OF SAMPLES AND/OR DATA: All available to outside researchers
ADDITIONAL INFORMATION: Most of our data are from two intensive sites: the Cedar River-Lake Washington drainage in Washington near Seattle, and the H.J. Andrews Forest on the McKenzie River near Eugene, Oregon. Vegetation is mostly young growth Douglas fir(Pseudotsuga menziesii) less than 100 years old, red alder (Alnus rubra), and at higher elevations, Pacific silver fir (Abies amabilis); The H.J. Andrews Forest contains several streams and the vegetation is mostly old growth Douglas fir and western hemlock (Tsuga heterophylla)

<149>
Robert V. Bega
Pacific S.W. Forest Expt. Sta.; USDA Forest Service; 1960 Addison St.; P.O. Box 245; Berkeley, CA 94701
(415) 486-3156

COLLECTION DESCRIPTION: Viruses, bacteria, and fungi of domestic and wild spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: United States; Canada
DATES OF SAMPLING: 1910 to present
NUMBER OF SAMPLES: Several hundred
SAMPLING METHODS: Routine herbarium collection methods
PERMANENT STORAGE PREPARATION: Intact Storage
    FUMIGATION: Paradichlorobenzene
    DRYING: Air or forced heated air
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Sealed herbarium cabinets
STORAGE LIFE OF SAMPLE: Indefinite
PUBLICATIONS: Critchfield, William B.; A New Conifer Herbarium. Taxon, 15:6, pp. 217-218, July 1966.
ADDITIONAL INFORMATION: Samples provided upon request for research purposes, also specimen lists on request

<150>
Glenn W. Gillman
Dept. of Microbiology; 799 WIDB; Brigham Young University; Provo, UT 84602
(801) 374-1211, ext 2194

COLLECTION DESCRIPTION: Bacteria, viruses, and fungi for propagation
Data and Specimens
PURPOSE OF COLLECTION: Supply teaching and research labs
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: United States
NUMBER OF SAMPLES: 10,000
SAMPLING METHODS: Isolation streaking technique
TEMPORARY CONTAINER: Solid agar plates; lyophilized vials; mineral oil overlay
PERMANENT STORAGE PREPARATION: Intact Storage
    FREEZING: Liquid Nitrogen
    LYOPHILIZATION: Yes
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    TEMPERATURE: Depends on methods used
STORAGE LIFE OF SAMPLE: Dependent on species
AVAILABILITY OF SAMPLES AND/OR DATA: Has not been in the past

<151>
Raghavan Charudattan
Plant Virus Laboratory; University of Florida; Gainesville, FL 32611
(904) 378-9140

COLLECTION DESCRIPTION: Microorganisms; aquatic fungi
Data and Specimens
PURPOSE OF COLLECTION: Biocontrol
SAMPLING LOCATION:
    CITY: Gainesville
    COUNTY: Alachua
    STATE: Florida
RESULTS OF ANALYSES: Cultures of microorganisms, aquatic plants (live), and diseased plants in herbaria
TEMPORARY CONTAINER: Culture tubes, aquarium jars, and herbarium sheets
PERMANENT STORAGE PREPARATION: Intact Storage
    OTHER: Live samples
AVAILABILITY OF SAMPLES AND/OR DATA: Subject to the decision of cooperating agencies

<152>
J.J. Callis
Plum Island Animal Disease Laboratory;P.O. Box
848;Greenport, L.I., NY 11944
(516)323-2500

FORMAL NAME OF COLLECTION: Reference Biological Repository
COLLECTION DESCRIPTION: Microorganisms, viruses, bacteria and mycoplasma; Marine and terrestrial vertebrate and invertebrate tissue specimens
Data and Specimens
PURPOSE OF COLLECTION: Research and Diagnosis
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide; United States
DATES OF SAMPLING: 1952 to present
NUMBER OF SAMPLES: Over 1,000
TEMPORARY CONTAINER: Freezing and refrigeration
PERMANENT STORAGE PREPARATION: Intact Storage; Fractionated; Homogenization
FREEZING: -20 to -70 degrees C
LYPHYLIZATION: Yes
AVAILABILITY OF SAMPLES AND/OR DATA: Release of any biological requires a permit from APHIS
ADDITIONAL INFORMATION: PIADC conducts research on approximately more than 30 exotic diseases of livestock, poultry and marine animals including seals. Seed microorganisms are collected from foreign laboratories. These seed microorganisms are refrigerated for frozen tissues, live or frozen cultures and lyophilized reference biologicals. The biologicals are replicated in optimal hosts and systems and reasonable quantities of reference biologicals are prepared, assayed for quality, packaged and stored under optimal storage conditions.

<153>
P.H. Lewis
Northeast Forest Experimental Sta.; 151 Sanford
St.; Hamden, CT 06514
(203) 772-0800, ext. 6153

COLLECTION DESCRIPTION: Culture collections, pathological slides, and photomicrographs of viruses and bacteria
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Northeastern United States; Worldwide
PERMANENT STORAGE PREPARATION: Intact Storage; Fractionated
FREEZING: -6 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic; glass
TEMPERATURE: 4 degrees C
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<154>
Catherine M. Newth
Dept. of Microbiology & Public Health;Michigan
State University; East Lansing, MI 48824
(517) 355-6503

COLLECTION DESCRIPTION: Microorganism stock cultures: bacteria and viruses
Specimens Only
PURPOSE OF COLLECTION: Teaching
DATES OF SAMPLING: 1950 to 1960; 1970 to present
NUMBER OF SAMPLES: Approx 500
TEMPORARY CONTAINER: Glass test tube
TEMPORARY STORAGE PROCEDURES: Cultures streaked on agar slants, incubated for growth and stored at room temperature
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: Lyophilized tubes at -20 degrees C
LYPHYLIZATION: Milk suspensions in small tubes sealed under vacuum
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Lyphilized tubes are stored in freezer at -20 degrees
STORAGE LIFE OF SAMPLE: Six weeks to six months
AVAILABILITY OF SAMPLES AND/OR DATA: Available on request

<155>
Richard Donovick
American Type Culture Collection; 12301 Parklawn
Dr.; Rockvill[illegible] 20852
(301) 881-2[illegible]

COLLECTION DESCRIPTION: Microorganisms; Algae, fungi and lichens
Data and Specimens
PURPOSE OF COLLECTION: Research and teaching standards
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
NUMBER OF SAMPLES: 20,000
FREEZING: minus 196 degrees C
LYPHYLIZATION: Yes
DRYING: Yes
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: Plus 5 degrees C to minus 196 degrees C
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available for a fee

<156>
L.C. McLaren
Dept. of Microbiology;University of New
Mexico;Albuquerque, NM 87131
(505) 277-2609

COLLECTION DESCRIPTION: Human and animal viruses
Data and Specimens
PURPOSE OF COLLECTION: Research and reference for clinical virology laboratory
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
DATES OF SAMPLING: 1955 to present
NUMBER OF SAMPLES: Approx. 100
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: Liquid nitrogen
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass vials
STORAGE MEDIA: Liquid nitrogen
AVAILABILITY OF SAMPLES AND/OR DATA: Samples or data available

COMPONENT OF INTEREST: MICROBIOLOGY

<157>
Thomas M. Yuill
Dept. of Veterinary Science; University of
Wisconsin; Madison, WI 53706
(608) 262-1177

COLLECTION DESCRIPTION: Frozen sera and fixed tissues of small wild mammals for pathogenic virus study
Data and Specimens
PURPOSE OF COLLECTION: Serological survey for pathogens
SAMPLING LOCATION:
STATE: Wisconsin; Texas
GEOGRAPHICAL AREA: Alberta; Canada
NUMBER OF SAMPLES: Sera: 2000; Tissue: 500
RESULTS OF ANALYSES: Frozen sera, fixed tissue
TEMPORARY CONTAINER: Glass
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: - 20 degrees C
CHEMICAL STABILIZATION: 10% formalin or Bovins
STORAGE LIFE OF SAMPLE: Sera: about 5 years; Tissue: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Possibly

<158>
Jerald C. Ensign
Department of Bacteriology;University of
Wisconsin;Madison, WI 53706
(608) 262-7977

COLLECTION DESCRIPTION: Arthrobacter bacteria
Data and Specimens
SCIENTIFIC NAME: Arthrobacter species
NUMBER OF SAMPLES: 12 species
PERMANENT STORAGE PREPARATION: Intact Storage
LYPHYLIZATION: Yes
STORAGE LIFE OF SAMPLE: Unlimited
AVAILABILITY OF SAMPLES AND/OR DATA: Freely available

<159>
Clifford W. Hesseltine, Thomas G. Pridham
Fermentation Laboratory; Northern Regional
Research Laboratory; 1815 North University;
Peoria, IL 61604
(309) 685-4011, ext. 262

COLLECTION DESCRIPTION: Bacteria and fungi in living cultures
Data and Specimens
PURPOSE OF COLLECTION: Germplasm resource for applied microbiological and fermentation research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1903 to present
NUMBER OF SAMPLES: Approx. 50,000 strains
RESULTS OF ANALYSES: Pure cultures of microorganisms
PERMANENT STORAGE PREPARATION: Intact Storage
LYPHYLIZATION: Most materials
OTHER: Agar slants, soil cultures
PERMANENT STORAGE CONDITIONS:
CONTAINER: Test tubes or lyophile tubes
TEMPERATURE: Generally at 3 degrees - 5 degrees C.
HUMIDITY: No
LIGHT EXPOSURE: Intermittent
STORAGE MEDIA: Air for test tubes; vacuum for lyophiles
STORAGE LIFE OF SAMPLE: Greater than 20 years for lyophiles.
AVAILABILITY OF SAMPLES AND/OR DATA: Progeny of strains available free of charge; no more than one dozen strains per request and no more than two requests per year.
PUBLICATIONS: Hesseltine, C.W., W.C. Haynes, L.J. Wickerham, and J.J. Ellis; History, Policy, and Significance of the ARS Culture Collection. Proceedings of the International Conference on Culture Collections, University of Tokyo Press, 1970
ADDITIONAL INFORMATION: The ARS Culture Collection is one of the large internationally known collections of authentic species of representative types of microorganisms including bacteria, ACTINOMYCETALES, molds, and yeasts for basic and applied research concerned with the conversion of agricultural materials to more useful products including fermented foods, and with pollution and health aspects of U.S. Department of Agriculture programs. The collection also serves as a repository recognized by the United States Patent Office as suitable for deposition of strains of microorganisms which are the subject of U.S. patent applications. Patent rules and storage procedures available; History of storage facility available.

<160>
Frederick J. Post
Dept. of Bacteriology UMC55; Utah State
University, Logan, UT 84322
(801) 752-4100, ext. 7930, 7911

COLLECTION DESCRIPTION: Living halophile bacteria
Data and Specimens
SCIENTIFIC NAME: Halobacterium; Halococcus
COMMON NAME: Halophile bacteria
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
COUNTY: Box Elder
STATE: Utah
GEOGRAPHICAL AREA: Royal Point; Great Salt Lake
PRESAMPLING CONDITIONS: None
DATES OF SAMPLING: 1972 - 1974
NUMBER OF SAMPLES: 22 cultures
SAMPLING METHODS: Grab samples
TEMPORARY CONTAINER: Glass culture tubes
TEMPORARY STORAGE PROCEDURES: Standard
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Periodic transfer
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<161>
Roy M. Johnson
Dept. of Microbiology; Arizona State University;
Tempe, AZ 85281
(602) 965-3483

COLLECTION DESCRIPTION: Bacteria of Antarctica and hot deserts
Data and Specimens
PURPOSE OF COLLECTION: Taxonomy
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Antarctica; Deserts; Worldwide
DATES OF SAMPLING: 1967 to 1972
NUMBER OF SAMPLES: Antarctica: 500; Deserts: 250
RESULTS OF ANALYSES: Pure cultures
SAMPLING METHODS: Soil samples collected aseptically and plated out for isolation by Dr. Roy Cameron, Jet Propulsion Lab.
PERMANENT STORAGE PREPARATION: Intact Storage
LYPHYLIZATION: Yes
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: Refrigeration
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: No specific funds are available presently for handling, subculturing, or transport to other individuals

<162>

COMPONENT OF INTEREST: MICROBIOLOGY

<162>
W.H. McCay
Box 158; Texas A&I University; Kingsville, TX
78363
(512) 595-3803

COLLECTION DESCRIPTION: Bacteria
Specimens Only
PURPOSE OF COLLECTION: Study specimens
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Variable
PRESAMPLING CONDITIONS: Unknown
DATES OF SAMPLING: unknown
NUMBER OF SAMPLES: Approx. 50
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Screw-top glass tubes
TEMPERATURE: Ambient
STORAGE MEDIA: Selected media
AVAILABILITY OF SAMPLES AND/OR DATA: Samples available
ADDITIONAL INFORMATION: Future plans: expanding collection in areas of pathogenic bacteria transmittal via aquatic epidimiological route

<163>
Roger S. Grischkowsky
Dept. of Fish and Game; State of Alaska; 33
Raspberry Rd.; Anchorage, AK 99502
(907) 344-0541

COLLECTION DESCRIPTION: Fish pathogenic bacteria
Data and Specimens
PURPOSE OF COLLECTION: Fish Disease prevention, control, and research
SAMPLING LOCATION:
STATE: Alaska
PRESAMPLING CONDITIONS: 1. Fish having external signs of infection(disease) 2. Normal fish for check on microflora 3. Certification for state (myxosoma cerebralis) 4. Check for IHNV in post spawning salmon
DATES OF SAMPLING: Bacteriological-regularly throughout year; virological - spring, summer, fall
NUMBER OF SAMPLES: Six fish/sample period for bacteria and protozoa; 150/site for viruses
SAMPLING METHODS: Bacteriological analyses: from hatchery pens with net. Virological analyses: fish in wier or netting
TEMPORARY CONTAINER: Bact. - Ice chest for refrigeration; virol: ovarian fluid or semen in tube in ice chest
TEMPORARY STORAGE PROCEDURES: Bacteria standard methods for isolation and identification; virology preliminary centrifugation and addition of antibody then sample sent to western fish disease lab for check on CPE
DELAY BEFORE PERMANENT STORAGE: 24-48 hrs.
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Sample taken from fresh tissue for bacterial analyses
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: Approx. 2-5 degrees C
STORAGE MEDIA: Bacteriological media: and/or broth
STORAGE LIFE OF SAMPLE: Approx. 2 yrs. at 2-5 degrees C
AVAILABILITY OF SAMPLES AND/OR DATA: Bacteria cultures; data through correspondence or publication
ADDITIONAL INFORMATION: Bacteria samples available: Vibro alginolyticus, V. Parahaemolyticus, V. anguillarum, Aeromonas salmonica , Aeromonas spp., Pseudomonas spp.

<164>
Burton Rosan
The Thomas W. Evans Museum and Dental Institute;
School of Dental Medicine; University of
Pennyslvania; 4001 Spruce street; Philadelphia,
PA 19104
(215) 594-8988

COLLECTION DESCRIPTION: Oral streptococcus bacteria
Data and Specimens
SCIENTIFIC NAME: Mostly oral streptococci (S. Sanguis, S. mutans, S. Faecalis)
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
CITY: Philadelphia
STATE: Pennsylvania
GEOGRAPHICAL AREA: Worldwide
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -20 degrees C
LYPHYLIZATION: Yes
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: 4 degrees C
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<165>
Paul J. Glantz
105 Animal Ind. Bldg.; Pennsylvania State
University; University Park, PA 16802
(814) 865-7690

COLLECTION DESCRIPTION: E. Coli cultures collected for serological typing
Data and Specimens
SCIENTIFIC NAME: Escherichia coli
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
CITY: University Park; Howard; Wellesboro; Poconos
COUNTY: Centre
STATE: Pennsylvania
GEOGRAPHICAL AREA: United States; Canada
PRESAMPLING CONDITIONS: Water samples - polluted or non-polluted. All animals - case history, necropsy data. Human - hospital data. Sewage effluent
DATES OF SAMPLING: 1954 to present
NUMBER OF SAMPLES: 15,000 strains
RESULTS OF ANALYSES: Mixed bacterial flora
SAMPLING METHODS: Water - length of stream. Animals and Humans, feces, tissue, fluids.
TEMPORARY CONTAINER: Inert plastic (water); tissue, feces, swabs cultured at once.
TEMPORARY STORAGE PROCEDURES: Membrane filter (water), standard microbiology methods on others. Blood agar, violet red bile agar (plates).
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Chlorinated water-used sodium thiosulfate
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass test tube containing sterile agar sealed with a waxed cork
TEMPERATURE: Room temperature
HUMIDITY: None (tube is sealed)
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Trypticase soy agar slant
STORAGE LIFE OF SAMPLE: Years (some 15-20 yrs old)
AVAILABILITY OF SAMPLES AND/OR DATA: Available at a charge per serotype. Cooperative projects welcomed. (I have no funds for this work.)
PUBLICATIONS: Paul J. Glantz: Escherichia coli Serogroups Isolated from Streams in Pennsylvania, 1965 to 1972. Applied Microbiology, 26:5, Nov. 1973 pp. 741-743.
ADDITIONAL INFORMATION: Data on reference center available. E. COLI isolated from streams, sewage effluent, normal and diseased animals and birds, wildlife are serologically classified (serotyped).

COMPONENT OF INTEREST: MICROBIOLOGY

<166>
Theodore C. Crusberg
Dept. of Life Sciences;Worcester Polytechnic
Institute; Worcester, MA 01609
(617) 753-1411, ext. 472, 543

COLLECTION DESCRIPTION: Bacteria originating in municipal water supplies
Data and Specimens
PURPOSE OF COLLECTION: Determination of pathogenic bacteria subsequent to chlorination
SAMPLING LOCATION:
    CITY: Worcester
    STATE: Massachusetts
PRESAMPLING CONDITIONS: Regular samples collected
DATES OF SAMPLING: June 8 - July 15, 1976
NUMBER OF SAMPLES: 210
SAMPLING METHODS: Standard Method - Membrane filtration growth on various media
TEMPORARY CONTAINER: Plastic or plates
TEMPORARY STORAGE PROCEDURES: Refrigeration
DELAY BEFORE PERMANENT STORAGE: Cultures transferred every 2 weeks on nutrient plates
PERMANENT STORAGE PREPARATION: Intact Storage
    LYOPHYLIZATION: Yes - each sample for future identification
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass tubes - evacuated
    LIGHT EXPOSURE: Dark
    STORAGE MEDIA: Filter paper
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Not at this location unless a charge is made for preparing plates and culturing, about $2.00/ colony.
ADDITIONAL INFORMATION: Total colonies: 210
Unidentified: 170 gram negative, 40 gram positive
Tentatively identified (most as enterics): 56, from standard plates-12, from M-FC of M-endo background - 35, as coliforms - 9

<167>
Joe F. Hennen
Dept. of Botany & Plant Pathology;Purdue
University;W. Lafayette, IN 47907
(317) 749-2947

COLLECTION DESCRIPTION: The most important collection of rust fungi in the Americas; hosts and parasites, including tracheophytes, spermatophytes, and pteridophytes
Data and Specimens
SCIENTIFIC NAME: Mainly Uredinales
COMMON NAME: Rust fungi
PURPOSE OF COLLECTION: Reference and research, structural and host-parasite relations
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1769 to present
NUMBER OF SAMPLES: 85,000 total
RESULTS OF ANALYSES: Microstructure
SAMPLING METHODS: Field survey
TEMPORARY CONTAINER: Herbarium cabinet
TEMPORARY STORAGE PROCEDURES: Drying and pressing in plant press
DELAY BEFORE PERMANENT STORAGE: 1-4 days
PERMANENT STORAGE PREPARATION: Intact Storage
    FUMIGATION: Paradichlorobenzene
    DRYING: Plant press until dry
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Sheet steel
    TEMPERATURE: None
    HUMIDITY: None
    LIGHT EXPOSURE: None
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Loan

<168>
Robert A. Sweeney
Great Lakes Laboratory; State University College;
1300 Elmwood Ave.; Buffalo, NY 14222
(716) 862-5422

COLLECTION DESCRIPTION: Freshwater algae; water samples from eutrophic and oligotrophic lakes and the Niagra River
Data and Specimens
SCIENTIFIC NAME: Chlorophyta; Cyanophyta; pyrrhophyta, cryptophyta, chrysophyta
PURPOSE OF COLLECTION: Reference collection
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Lake Erie; Lake Ontario; Niagara River
DATES OF SAMPLING: Lake Ontario, 1972 - 1973; Lake Erie, 1973 - 1976
NUMBER OF SAMPLES: Approx. 1000
RESULTS OF ANALYSES: Raw water
SAMPLING METHODS: Van Dorn PVC water bottle
TEMPORARY CONTAINER: Glass with bakelite caps
TEMPORARY STORAGE PROCEDURES: Box and store
PERMANENT STORAGE PREPARATION: Intact Storage
    OTHER: 1:100 Lugol's solution (I, KI, Acetic Acid)
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    LIGHT EXPOSURE: Room lighting
    STORAGE MEDIA: Lugol's iodine 1:100, Lugol's composition 10g. I, 20g KI, 20ml Acetic acid, 200ml Distilled water
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Both available

<169>
John J. Lee
City College of CUNY; Dept. of Biology; Convent
Ave. at 138th Street; New York, NY 10031
(212) 621-7040

COLLECTION DESCRIPTION: Marine micro- and meiofloral and faunal organisms
Data and Specimens
PURPOSE OF COLLECTION: Ongoing studies of marine micro and meioflora & faunal food web interactions
SAMPLING LOCATION:
    COUNTY: Long Island,NY; New York City, NY;Woods Hole, MA
    STATE: New York; Florida; Massachusetts
    GEOGRAPHICAL AREA: Key Largo Sound;Biscane Bay
DATES OF SAMPLING: 1958 to present
NUMBER OF SAMPLES: Approx. 1,000
RESULTS OF ANALYSES: Available
SAMPLING METHODS: Available
TEMPORARY CONTAINER: Test tubes, flasks, etc.
PERMANENT STORAGE PREPARATION: Intact Storage
    FREEZING: Some in liquid nitrogen
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Upon request
PUBLICATIONS: Lee, J.J., J.H. Tietjen, R.J. Stone, W.A. Muller, J. Rullman, and G. McEnery; The Cultivation and Physiological Ecology of Members of Salt Marsh Epiphytic Communities. Helgolander wiss. Meeresunters. 20, 136-156, 1970.; Matera, N.J. and J.J. Lee; Environmental Factors Affecting the Standing Crop of Foraminifera in Sublittoral and Psammolittoral Communities of a Long Island Salt Marsh. Marine Biology, International Journal on Life in Oceans and Coastal Waters, 14:2 pp. 89-103, May 1972

<170>

COMPONENT OF INTEREST: MICROBIOLOGY

<170>
Donald Marx
Forestry Sciences Laboratory; USFS; Carlton Street; Athens, GA 30602
(404) 546-2435

COLLECTION DESCRIPTION: Ectomycorrhizal, endomycorrhizal, and root pathogenic fungi
Data and Specimens
PURPOSE OF COLLECTION: Research purposes
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1961 to present
NUMBER OF SAMPLES: 83
RESULTS OF ANALYSES: Vegetative
SAMPLING METHODS: Aseptic cultural techniques
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Culture medium in glass tubes
TEMPERATURE: -15 to -4 degrees C
LIGHT EXPOSURE: Agar base
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Yes - if for research purposes
ADDITIONAL INFORMATION: Species list available

<171>
G.F. Orr
Life Sciences Laboratory Division; Dugway Proving Ground; Dugway, UT 84022
(801) 522-5408

COLLECTION DESCRIPTION: Slant cultures mostly of the Gymnoascaceae fungi and related soil, organic detritus; hair samples from normal and diseased humans
Data and Specimens
PURPOSE OF COLLECTION: Comparisons of isolates for taxonomic studies
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
PRESAMPLING CONDITIONS: None
NUMBER OF SAMPLES: 1600
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -20 degrees C
LYPHYLIZATION: 4 degrees C
OTHER: Freezing Agar
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass bottle slants
STORAGE LIFE OF SAMPLE: 3 to 5 years
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens & data arranged by request

<172>
Kenneth E. Zeiders
U.S. Regional Research Lab.;University Park, PA 16802
(814) 237-7683

COLLECTION DESCRIPTION: Forage crop parasitic fungi and bacteria
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
CITY: University Park
COUNTY: Centre
STATE: Pennsylvania
GEOGRAPHICAL AREA: United States
PRESAMPLING CONDITIONS: Any significant environmental information such as weather or soil conditions which may have affected disease incidence and buildup is noted.
DATES OF SAMPLING: April 1 - Nov. 1 yearly. Range: 1954-1974 (inclusive)
NUMBER OF SAMPLES: 498
SAMPLING METHODS: Collection of diseased plants and isolation of pure cultures from diseased plant parts.
TEMPORARY CONTAINER: Glass test tubes
TEMPORARY STORAGE PROCEDURES: An agar plug from a petri-dish culture is inserted into sterile moist soil. When the soil is colonized by the organism, the tube is stored in a refrigerator.
DELAY BEFORE PERMANENT STORAGE: 3 to 4 weeks
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Air drying
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass test tubes
TEMPERATURE: 3 to 5 degrees C
HUMIDITY: 45 to 50% R.H.
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Sterile crumbs of silt loam or sandy loam soil
STORAGE LIFE OF SAMPLE: 1 1/2 to 5 years, or longer, depending upon the organism.
AVAILABILITY OF SAMPLES AND/OR DATA: Cultures are generally available to other field crop researchers in the USA
ADDITIONAL INFORMATION: This collection of parasitic fungi which cause diseases on forage crops in the Northeastern and North Central U.S. includes most of the important root and foliar pathogens. The principal genera include Leptosphaerulina, Stemphylium, Fusarium, Helminthosporium, Stagonospora, and Colletotrichum. Collection serves as a working collection and is an indispensable asset in the plant pathology research program at this laboratory. Many of the fungi in this collection can be obtained from the American Type Culture Collection or from similar collections in Europe or the British Isles.

<173>
Robert A. Sweeney
Great Lakes Laboratory; State University College; 1300 Elmwood Ave.; Buffalo, NY 14222
(716) 862-5821

COLLECTION DESCRIPTION: Zooplankton; eutrophic and oligotrophic lake water and river water samples
Data and Specimens
SCIENTIFIC NAME: Various Cladocera; Copepoda
PURPOSE OF COLLECTION: Reference
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Lake Erie; Lake Ontario; Niagara River
DATES OF SAMPLING: Lake Ontario 1972 to 1973; Lake Erie 1973 to 1974
NUMBER OF SAMPLES: Approx 1,000
SAMPLING METHODS: 64 mu 1/2 meter conical oceanographic zooplankton net; net hauled vertically from near bottom to surface
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Ambient
STORAGE MEDIA: 10% formaldehyde 5% glycerine; formalin is neutralized with Na acetate
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Both available

<174>
Richard D. Cramer
Technology Assessment; Smith Kline & French Laboratories; 1500 Spring Garden Street; Philadelphia, PA 19101
(215) 854-5648

COLLECTION DESCRIPTION: Soils; bacteria
Data and Specimens
PURPOSE OF COLLECTION: Soil screening for antibiotics
SAMPLING LOCATION:
GEOGRAPHICAL AREA: India

COMPONENT OF INTEREST: MICROBIOLOGY

<175>
James Schoenwetter
Department of Anthropology; Arizona State
University; Tempe, AZ 85281
000

COLLECTION DESCRIPTION: Soils containing pollen
and spores of archaeological interest
Specimens Only
PURPOSE OF COLLECTION: Extraction of pollen and
spores
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Mostly archaeology sites
DATES OF SAMPLING: 1960 to present
NUMBER OF SAMPLES: Hundreds
SAMPLING METHODS: Adequate to recover
uncontaminated by modern pollen
TEMPORARY CONTAINER: Plastic bags; sealed manilla
envelopes
PERMANENT STORAGE PREPARATION: Intact Storage
AVAILABILITY OF SAMPLES AND/OR DATA: Dependent on
potential use

<176>
James W. Anderson
State Water Quality Control Board; 6833 Indiana
Ave., Suite 1; Riverside, CA 92506
(714) 684-9330

COLLECTION DESCRIPTION: Water quality data on
bacteria, aquatic and marine algae, eutrophic and
oligotrophic lake, river, ground, and brackish
water samples, estuarine and coastal seawater
samples
Data Collection Only
PURPOSE OF COLLECTION: Water quality monitoring
SAMPLING LOCATION:
    COUNTY: San Bernardino; Riverside; Orange
    STATE: California
    GEOGRAPHICAL AREA: Santa Ana River; San
    Jacinto River
DATES OF SAMPLING: Approx. 1950 to present
NUMBER OF SAMPLES: Numerous
AVAILABILITY OF SAMPLES AND/OR DATA: All data
available

<177>
Charles W. Riley
Water Resources Commission;3005 Alpha St.;
Michigan Dept. of Natural Resources; P.O. Box
1573; East Lansing, MI 48823
(517) 373-2508; (517) 373-3938

COLLECTION DESCRIPTION: Data only - waste water
discharge surveillance.
Data Collection Only
PURPOSE OF COLLECTION: Public record of waste
water discharge surveillance activities
SAMPLING LOCATION:
    STATE: Michigan
DATES OF SAMPLING: 1969 to Present
AVAILABILITY OF SAMPLES AND/OR DATA: Reprints
available

COMPONENT OF INTEREST: MINERALOGY
(SEE ALSO 4, 7, 10, 12, 15, 19, 20, 28, 36, 65, 72, 75, 76, 77, 78, 79, 82, 85, 87, 90, 91, 94, 98, 115, 135, 140, 141, 147, 148, 216, 222, 271, 420, 510, 647, 651, 652, 655)

<178>
Frank B. Gill
Academy of Natural Sciences;Nineteenth and the Parkway;Philadelphia, PA 19103
(215) 567-3700

COLLECTION DESCRIPTION: Aquatic and terrestrial plants, including algae, fungi, bryophytes, pteridophytes, and spermatophytes; aquatic marine and terrestrial vertebrates and invertebrates; bedrock; lake, river, estuarine bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: United States
DATES OF SAMPLING: 1650 to present

<179>
Craig D. Shaak
Dept. of Natural Science;Florida State Museum:University of Florida;Gainesville, FL 32601
(904) 392-1721

FORMAL NAME OF COLLECTION: Invertebrate Paleontology Collection
COLLECTION DESCRIPTION: Fossil invertebrate specimens; bedrock; organic detritus; lake, river, estuarine and marine bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: Research and teaching
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Numerous
DATES OF SAMPLING: 1957 to present
NUMBER OF SAMPLES: 2500
TEMPORARY CONTAINER: Metal
TEMPORARY STORAGE PROCEDURES: Open trays
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Steel
    TEMPERATURE: Yes
    HUMIDITY: Yes
    LIGHT EXPOSURE: Yes
    STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<180>
Director
Alabama Geol. Survey;P. O. Drawer O;University, AL 35486
(205) 759-5721

FORMAL NAME OF COLLECTION: Geological Survey of Ala. & State Oil & Gas Board Reference Collections
COLLECTION DESCRIPTION: Terrestrial fossil plants; fossil vertebrates and invertebrates; bedrock samples
Data and Specimens
PURPOSE OF COLLECTION: Reference and geological research
SAMPLING LOCATION:
    STATE: Alabama
DATES OF SAMPLING: 1873 to present
NUMBER OF SAMPLES: 700 minerals; 4000 fossils; 1700 oil test well; 1800 water well
SAMPLING METHODS: Based on occurrence and well location
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: Drill cuttings washed then dried at 93 degrees C.
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Fossils in steel cabinets; minerals and well cuttings in cardboard boxes.
AVAILABILITY OF SAMPLES AND/OR DATA: On the Geological Survey premises

<181>
William T. Young
Florida Dept. of Pollution Control; 1384 Shoreline Drive;Gulf Breeze, FL 32561
(904) 932-5323

COLLECTION DESCRIPTION: Bacteria, aquatic and marine algae, aquatic and marine invertebrates, river and estuarine bottom sediments; river water, brackish water, estuarine, coastal, and marine seawater samples
Data and Specimens
PURPOSE OF COLLECTION: Biological monitoring
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Gulf of Mexico
DATES OF SAMPLING: 1955 to present
NUMBER OF SAMPLES: Several hundred
RESULTS OF ANALYSES: Species diversity of macroinvertebrate benthos, primarily and biotic index.
SAMPLING METHODS: Ponar and Ekman dredges, fine mesh d-ring dipnet, artificial substrates
TEMPORARY CONTAINER: Vials
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    STORAGE MEDIA: 90% alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Sediments - data only

<182>
Carol Allison
University Museum; University of Alaska; Fairbanks, AK 99701
(907) 479-7505

FORMAL NAME OF COLLECTION: Paleontological and Geological Collections
COLLECTION DESCRIPTION: Fossil collection of algae, tracheophytes, pteridophytes, and spermatophytes. Fossil marine and terrestrial vertebrates and invertebrates; Bedrock samples
Data and Specimens
PURPOSE OF COLLECTION: Teaching, research and exhibit
SAMPLING LOCATION:
    STATE: Alaska
DATES OF SAMPLING: 1935 to present
NUMBER OF SAMPLES: Algae-1000; Pteridophytes-350; Spermatophytes-1700; Vertebrates-5000; Invertebrates-9000; Bedrock-5000
RESULTS OF ANALYSES: Fossils and various rock specimens, mainly sedimentary
SAMPLING METHODS: Usual fossil and rock collecting methods
PERMANENT STORAGE PREPARATION: Intact Storage
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available on loan to qualified research personnel and projects

<182>

COMPONENT OF INTEREST: MINERALOGY

<183>
Ardell J. Bjugstad
Forestry Research Laboratory; Rocky Mountain Forest and Range Experiment Sta.; South Dakota School of Mines and Technology; Rapid City, SD 57701
(605) 343-0811

COLLECTION DESCRIPTION: Deer rumen; soil samples
Data and Specimens
COMMON NAME: Deer rumen samples-soil core samples
PURPOSE OF COLLECTION: Rumen content composition; physical & chemical analysis of soil
SAMPLING LOCATION:
CITY: Rapid City
COUNTY: Pennington
STATE: South Dakota
PRESAMPLING CONDITIONS: Deer rumen 1967-1972 on various vegetative types; soil samples 1972 actually coal mine spoil material
DATES OF SAMPLING: 1967-1972
NUMBER OF SAMPLES: Deer rumen 100; Soil 300
SAMPLING METHODS: Soil-auger, rumen-frozen slice
TEMPORARY CONTAINER: Quart paper cartons
TEMPORARY STORAGE PROCEDURES: Rumen, frozen; soil, air-dried
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -20 degrees C
DRYING: Soil-Air dried
AVAILABILITY OF SAMPLES AND/OR DATA: Publicly available

<184>
Wayne O. Willis
Northern Great Plains Research Lab.; USDA; P.O. Box 459; Mandan, ND 58554
(701) 663-6448

COLLECTION DESCRIPTION: Soils and domestic plants
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Northern Great Plains
PRESAMPLING CONDITIONS: Varied; some samples back to earlier part of century
DATES OF SAMPLING: Soils 1915 to present; plants 1920 to present
NUMBER OF SAMPLES: Approx. 2,000
SAMPLING METHODS: Gravimetric, physical of soils; plant introduction
TEMPORARY CONTAINER: Paper, glass, metal
TEMPORARY STORAGE PROCEDURES: Soil collected, ground, analysed, stored; plants growing in the field
DELAY BEFORE PERMANENT STORAGE: Variable
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Air-dry
PERMANENT STORAGE CONDITIONS:
CONTAINER: Paper, glass, metal for soils
TEMPERATURE: None
HUMIDITY: None
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: data are available; samples are limited to specific request

<185>
S. W. Melsted
Soil Chemistry; Dept. of Agronomy; College of Agriculture;S.510 Turner Hall; University of Illinois;Urbana,IL 61801
(217) 333-4376

COLLECTION DESCRIPTION: Soil samples; wheat, corn, grass, and soybean samples
Specimens Only
PURPOSE OF COLLECTION: To study changes in soils with time; have reference soil and plant samples to determine benchmark levels
SAMPLING LOCATION:
STATE: Illinois
GEOGRAPHICAL AREA: 15 agricultural experimental fields in Illinois
PRESAMPLING CONDITIONS: Regular field sampling of soils at about 10 year intervals. Some samples going back to 1868, and several hundred to the 1920's. Plant samples, mostly corn, wheat and grasses, going back to 1936.
DATES OF SAMPLING: Experiment fields, every 10 years since 1925; Morrow Plots every 6 to 10 years since 1904; Some samples from 1868
NUMBER OF SAMPLES: Soils some 5000 to 6000; Plants some 400 to 500.
SAMPLING METHODS: Standard soil samplers
PERMANENT STORAGE PREPARATION: Homogenized
CHEMICAL STABILIZATION: Plant samples - Camphor and naphthalene
DRYING: Plant samples dried at 80 degrees C, ground. Soils air dried & crushed.
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass, sealed jars
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Dark
STORAGE LIFE OF SAMPLE: Plant samples about 20 years. Soils - indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Generally available in 1 or 2 gram quantities of plant material; Soil samples available in 50 to 100 gram quantities, except for some of the 1868 to 1910 samples.
ADDITIONAL INFORMATION: This collection of soil and plant samples has been used to determine bench mark levels for studies of Sr-90 fallout, pre-leaded gasoline levels, pre-2,4D and DDT levels in plants, etc. Therefore not all crops and years combinations are available. Only vegetative plant samples are available dating 1945 and earlier. Only wheat grain samples for the period 1945 to 1950. After 1950, wheat, corn and soybean samples are available.

<186>
Frank Bonner
U.S. Forest Service; Forestry Tree Seed Laboratory; Southern Forest Exp. Sta.; P.O. Box 906; Starkville, MS 39759
(601) 323-8162

COLLECTION DESCRIPTION: Fruit and seeds of woody plants
Data and Specimens
PURPOSE OF COLLECTION: Research - technology and physiology of tree seeds - includes chemical analyses
SAMPLING LOCATION:
STATE: Mississippi
GEOGRAPHICAL AREA: South America
PRESAMPLING CONDITIONS: Principally from second-growth timber stands
DATES OF SAMPLING: 1966 to present
NUMBER OF SAMPLES: Approx. 100
SAMPLING METHODS: Random
TEMPORARY CONTAINER: Plastic
TEMPORARY STORAGE PROCEDURES: Seeds usually brought into lab in plastic containers. Usually no temporary storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass, plastic
TEMPERATURE: 3 degrees C
HUMIDITY: 40-50 % RH
LIGHT EXPOSURE: Occasional
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Some species 10 years old
AVAILABILITY OF SAMPLES AND/OR DATA: Small samples may be available. It will depend on the species.

<187>
James W. Porter
School of Natural Resources; University of Michigan; Ann Arbor, MI 48104
(313) 763-0047

FORMAL NAME OF COLLECTION: J.W. Porter Coral Collection 142 Dana Bldg./Univ. of Michigan/Ann Arbor, Michigan
COLLECTION DESCRIPTION: Cnidaria scleractinian Coral
Data and Specimens
PURPOSE OF COLLECTION: Museum collection; studies on coral growth forms as related to physical (light, T(o), & sedimentation) and biological influences.
SAMPLING LOCATION:
CITY: Pigeon Key, FL
STATE: Florida
GEOGRAPHICAL AREA: Caribbean Sea; Eastern Pacific Ocean; Panama
DATES OF SAMPLING: 1969 to present
NUMBER OF SAMPLES: Roughly 100 species are represented by 600 specimens total
SAMPLING METHODS: Samples were taken from "typical" reefal environments in areas where transecting and physical oceanographic information was also taken. Specimen were picked by hand and cleaned off in fresh and clorox water rinses
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Placed on masonite rock trays in formica cabinets
TEMPERATURE: Room temperature
HUMIDITY: None
LIGHT EXPOSURE: Containers are light-tight
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Both specimens and data will be fully available to outside researchers if handled so as not to destroy the specimen. Specimen destruction for analysis will require my permission
PUBLICATIONS: Porter, J.W. 1974. Community Structure of coral reefs on opposite sides of the Isthmus of Panama. Science 186:543-545. Porter, J.W. 1972. Predation by ACANTHASTER and its effect on coral species diversity. Am. Nat. 950: 487-492.

<188>
Jean Kemp
Institute of Mineral Research; Michigan Tech University; Houghton, MI 49931
(906) 487-2600; (906) 487-2572

FORMAL NAME OF COLLECTION: A.E. Seaman Mineral Library
COLLECTION DESCRIPTION: Rocks, minerals, and soils
Specimens Only
PURPOSE OF COLLECTION: Museum collection and for research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1875 to present
NUMBER OF SAMPLES: Approx. 30, 000
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Some samples may be available by arrangement - also some duplicates

<189>
Richard I. Barnhisel
Dept. of Agronomy; University of Kentucky; Lexington, KY 40506
(606) 257-1513

COLLECTION DESCRIPTION: Soils; clays; bedrock
Data and Specimens
PURPOSE OF COLLECTION: Soil survey maps for Kentucky; soil mineral research standards
SAMPLING LOCATION:
STATE: Kentucky; Alabama; Mississippi; Virginia; North Carolina; South Carolina
GEOGRAPHICAL AREA: Southeastern United States
DATES OF SAMPLING: 1955-present
NUMBER OF SAMPLES: Approx 60 soil series; 13 soil samples
RESULTS OF ANALYSES: Chemical properties
SAMPLING METHODS: Pit dug by hand or tractor mounted backhoe; soil horizon described and collected separately in containers of 4 liters. Soils air dried and crushed to pass 2 mm sieve. Crusher was mechanical grinder
TEMPORARY CONTAINER: Plastic and paper boxes.
PERMANENT STORAGE PREPARATION: Homogenization
DRYING: Air dried
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic or Paper
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available if supply permits
ADDITIONAL INFORMATION: The Southern Regional Mineralogical Collection is or will be available in 6 mo. These samples may also be distributed by NBS but arrangements have not been made at this time. The data is in the process of being summarized and will include at least the following: particle size distribution, clay mineralogy, infrared spectra, differential thermal analysis, chemical properties such as CEC, surface area and composition.

<190>
Richard W. Roberts
Dept. of Oceanography; University of Washington; Seattle; WA 98105
(206) 543-6790

COLLECTION DESCRIPTION: Oceanic bedrock; marine bottom sediments; limited estuarine and river bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: Provide samples for scientific investigation
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Pacific Ocean; Bering Sea; Chukchi Sea; East Siberian Sea; Laptev Sea; Black Sea; Caribbean Sea; Tasman Sea; Puget Sound
DATES OF SAMPLING: 1938 to present
NUMBER OF SAMPLES: More than 5000
SAMPLING METHODS: Various grab sampling devices, piston cores, gravity cores, and dredges
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: Less than 0
LOW TEMPERATURE ASHING: 1-4 degrees; 22 degrees
DRYING: Some of the older samples have become desiccated
PERMANENT STORAGE CONDITIONS:
CONTAINER: Samples are stored in various glass and plastic containers
TEMPERATURE: 1-4 degrees; 22 degrees
AVAILABILITY OF SAMPLES AND/OR DATA: Yes - on an individual basis
ADDITIONAL INFORMATION: Granulometric and chemical analysis

<191>

COMPONENT OF INTEREST: MINERALOGY

<191>
Ben B. Ewing
Institute for Environmental Studies; University of Illinois; 911 W. High St.; Urbana, IL 61801
(217) 333-4178

COLLECTION DESCRIPTION: Soils
Specimens Only
PURPOSE OF COLLECTION: Agronomy Dept. collections from various cultivated fields in various areas of Illinois
SAMPLING LOCATION:
STATE: Illinois
PRESAMPLING CONDITIONS: Cultivated
SAMPLING METHODS: Cores
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass jars with screw caps
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Minimal
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Many years
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and collection data available

<192>
William [illegible]. McKee, Jr.
Southern Forest Experiment Sta.; USDA Forest Service; 2500 Shrevesport Hwy.; Pineville, LA 71360
(318) 445-6511, ext. 382

COLLECTION DESCRIPTION: Soil samples
Data Collection Only
SAMPLING LOCATION:
STATE: Louisiana
PRESAMPLING CONDITIONS: Soils have not been cultivated and reflect changes in chemical environment due to flooding and drought.
DATES OF SAMPLING: 1967 to present
NUMBER OF SAMPLES: 300-500
RESULTS OF ANALYSES: Analysis for available nutrients, some total mineral analysis of A1 horizon
SAMPLING METHODS: Random sampling on previously established plots specific to given soil series
TEMPORARY STORAGE PROCEDURES: Soils were air dried before analysis
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Drying at room temperature
AVAILABILITY OF SAMPLES AND/OR DATA: Data on chemical analysis is generally available on request. Some soil material is available from forest soil of the region. Availability will depend upon the individual request.

<193>
Augustus G. Caldwell
Department of Agronomy; Room 213; Louisiana State University; Baton Rouge, LA 70803
(504) 389-3381

COLLECTION DESCRIPTION: Soil samples.
Data and Specimens
PURPOSE OF COLLECTION: Profile samples of soils for chemical, minerelogical, and physical characterization
SAMPLING LOCATION:
CITY: Baton Rouge
COUNTY: East Baton Rouge Parish
STATE: Louisiana
PRESAMPLING CONDITIONS: Previously investigated and described by U.S.D.A. S.C.S.
DATES OF SAMPLING: 1950's to present
NUMBER OF SAMPLES: Approx. 1000
RESULTS OF ANALYSES: Dry, screened sample less than 2 mm diameter
SAMPLING METHODS: Open pit sampled to minimize contamination from adjacent horizons (levels) in the soil, generally to a depth of 2 meters.
TEMPORARY CONTAINER: Polyethylene bags
DELAY BEFORE PERMANENT STORAGE: Days to several weeks
PERMANENT STORAGE PREPARATION: Homogenization
DRYING: Air dry, crushed and sieved
PERMANENT STORAGE CONDITIONS:
CONTAINER: Paper ice cream cartons
TEMPERATURE: Ambient
HUMIDITY: None
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: 10 plus years
AVAILABILITY OF SAMPLES AND/OR DATA: Data in soil survey reports; small samples (100g) available for appropriate research

<194>
S.W. Buol
Dept. of Soil Science; P.O. Box 5907; North Carolina State University; Raleigh, NC 27607
(919) 737-2388

COLLECTION DESCRIPTION: Soil samples
Data and Specimens
PURPOSE OF COLLECTION: Soil survey and research
SAMPLING LOCATION:
STATE: North Carolina
GEOGRAPHICAL AREA: South America; Central America
DATES OF SAMPLING: 1935 to present
NUMBER OF SAMPLES: Approx. 500
TEMPORARY CONTAINER: Glass & box (fiber)
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Methyl bromide
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<195>
Guenther Stotzky
Dept. of Biology;New York University;Washington Square; NY 10003
(212) 598-3435

COLLECTION DESCRIPTION: Soil samples; bacteria and fungi
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Central America; Columbia; Educador; Africa
PRESAMPLING CONDITIONS: Some geological history
DATES OF SAMPLING: 1960-1965
NUMBER OF SAMPLES: Approx. 250 soils
RESULTS OF ANALYSES: 17 soil characteristics including clay minerology
SAMPLING METHODS: Shovel
TEMPORARY CONTAINER: Plastic bags
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic
AVAILABILITY OF SAMPLES AND/OR DATA: Available

COMPONENT OF INTEREST: MINERALOGY

<196>
George G. Holmgren
Soil Survey Laboratory; Soil Conservation Service
1325 N St.; Lincoln, NB 68508
(402) 471-5308

COLLECTION DESCRIPTION: Soils of United States classed by series; analyzed for particle size, organic carbon, cation exchange
Data and Specimens
PURPOSE OF COLLECTION: Classification of soils of United States
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: United States; Puerto Rico; Virgin Islands
PRESAMPLING CONDITIONS: Mostly agricultural
DATES OF SAMPLING: 1955 to present
NUMBER OF SAMPLES: Approx. 30, 000
SAMPLING METHODS: Pit
TEMPORARY CONTAINER: Cardboard
TEMPORARY STORAGE PROCEDURES: Crushed to 2 mm, screened through brass, stored in glass
DELAY BEFORE PERMANENT STORAGE: 2 to 3 years
PERMANENT STORAGE PREPARATION: Homogenization
    DRYING: Approx. 90 degrees
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Waxed cardboard (Ice cream cartons)
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Supply very limited - Approx. 500 gm/sample, some less

<197>
Donald B. Lawrence
Dept. of Botany; University of Minnesota;
Biological Science Center; St. Paul, MN 55101
(612) 373-2211

COLLECTION DESCRIPTION: Volcanic ash
Data and Specimens
PURPOSE OF COLLECTION: Reference
SAMPLING LOCATION:
    CITY: East Bethel
    COUNTY: Anoka
    STATE: Minnesota
PRESAMPLING CONDITIONS: Undisturbed except for radioactive fallout prior to 1943
PERMANENT STORAGE PREPARATION: Intact Storage
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Yes, with adequate notice

<198>
Gerald A. Nielsen
Dept. of Plant and Soil Sciences; Montana State
University; Bozeman, MT 59715
(406) 994-4601

COLLECTION DESCRIPTION: Soil characterization
Data and Specimens
PURPOSE OF COLLECTION: Soil survey reference samples
SAMPLING LOCATION:
    STATE: Montana
PRESAMPLING CONDITIONS: Sites had been selected as being representative of Montana Benchmark Soil Series. In some cases the specimen bank samples were collected after the initial sampling for characterization
DATES OF SAMPLING: 1960 to present
NUMBER OF SAMPLES: 56 samples; 200 sites with data but no samples
SAMPLING METHODS: Pits were dug and samples collected to a depth of about 6 feet. Each major soil horizon collected separately (about 6) horizons ("layers") per site.
TEMPORARY CONTAINER: Stored in covered plastic 5 gallon containers when sampled in the field.
TEMPORARY STORAGE PROCEDURES: Sample is air-dried until constant weight, crushed to destroy soil aggregates and clods; mixed & passed through a 2 mm diameter seive.
DELAY BEFORE PERMANENT STORAGE: About 30 days; permanent storage in same container after sample is dried, crushed, mixed and seived
PERMANENT STORAGE PREPARATION: Homogenization
    DRYING: 55 degrees C or air-dried at about 20 degrees C
    OTHER: Analyzed for: mechanical characteristics; extractable cations; soluble salts; water retention; organic carbon; nitrogen; pH
PERMANENT STORAGE CONDITIONS:
    TEMPERATURE: 18 to 25 degrees C
    HUMIDITY: Less than 30%
    LIGHT EXPOSURE: Dark
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: 56 samples available in quantities of 200 g or less. Data available from 200 sites (1500 soil horizon samples)
ADDITIONAL INFORMATION: Data are recorded on computer magnetic tape using the coding system of the National Soil Survey.

<199>
George G. Holmgren
Soil Survey Laboratory; Soil Conservation
Service; 1325 "N" St.; Lincoln, NB 68508
(402) 471-5308

FORMAL NAME OF COLLECTION: Soil Sample Bank
COLLECTION DESCRIPTION: Soil samples
PURPOSE OF COLLECTION: Reference materials for soil analysis (primarily chemical analysis)
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: United States; 14 sites
DATES OF SAMPLING: 1975
NUMBER OF SAMPLES: Approx. 35
SAMPLING METHODS: Pit
PERMANENT STORAGE PREPARATION: Homogenization
    FUMIGATION: Probably on some
    DRYING: Air dry
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Will be available through Bureau of Standards as a set at cost
PUBLICATIONS: Holmgren, G.G.S., ch.; Soil Sample Bank. Soil Science Society of America, Draft December 1973.
ADDITIONAL INFORMATION: Not yet assembled but administrative procedures are being worked out. Hopefully available by 1976.

<200>

COMPONENT OF INTEREST: MINERALOGY

<200>
M.E. Hopkins
309 Natural Resources Bldg.; Urbana, IL 61801
(217) 344-1481, ext. 260

FORMAL NAME OF COLLECTION: Whole Coal
COLLECTION DESCRIPTION: Whole coal samples from mines
Data and Specimens
SCIENTIFIC NAME: Lignite, Sub-bituminous Coal, Bituminous Coal
COMMON NAME: Coal
PURPOSE OF COLLECTION: Collection is for petrographic, chemical, mineralogical, and related studies of coal
SAMPLING LOCATION:
    STATE: West Virginia; Montana; Wyoming; North Dakota; Colorado; Arizona; Utah; Illinois; Indiana; Kentucky; Iowa, Missouri; Ohio; Pennsylvania
    GEOGRAPHICAL AREA: British Columbia;Canada
PRESAMPLING CONDITIONS: Most of the samples were collected from coal mines
DATES OF SAMPLING: 1940 to present
NUMBER OF SAMPLES: More than 1,500 samples on hand; data for over 20,000
RESULTS OF ANALYSES: All samples are whole coal crushed to 3/8th inch or finer
SAMPLING METHODS: Samples are from drill cores, face channels, and grab samples. The majority of the samples are face channel samples
PERMANENT STORAGE PREPARATION: Intact Storage
    OTHER: Crushed less than 3/8 inch
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Polyethylene
    TEMPERATURE: Ambient room temperature
    HUMIDITY: None
    LIGHT EXPOSURE: Opaque containers
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and computerized data bank available

<201>
M.E. Hopkins
309 Natural Resources Bldg.; Urbana, IL 61801
(217) 344-1481, ext. 260

FORMAL NAME OF COLLECTION: Ash from coal
COLLECTION DESCRIPTION: Low-temperature coal ash from mines
Data and Specimens
COMMON NAME: Low Temperature Coal Ash
PURPOSE OF COLLECTION: Collection is for chemical, mineralogical, and related studies of coal
SAMPLING LOCATION:
    STATE: Illinois; Indiana; Kentucky; Iowa; Missouri; Ohio; Pennsylvania; West Virginia; Montana; Wyoming; North Dakota; Colorado; Arizona; Utah
    GEOGRAPHICAL AREA: British Columbia; Canada
PRESAMPLING CONDITIONS: Most of the samples were collected from coal mines
DATES OF SAMPLING: 1967 to present
NUMBER OF SAMPLES: 1,000 LTA samples on hand, data on more than 1,500
RESULTS OF ANALYSES: Coal ash less than 20 mesh
SAMPLING METHODS: Method described in Illinois State Geological Survey circular, 476, EGN 61
PERMANENT STORAGE PREPARATION: Intact Storage
    LOW TEMPERATURE ASHING: Less than 150 degrees C
    DRYING: Dried in vacuum desicator prior to ashing
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Pyrex
    TEMPERATURE: Ambient room temperature
    LIGHT EXPOSURE: Closed cabinet
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Samples and computerized data bank available

<202>
M.E. Hopkins
309 Natural Resources Bldg.; Urbana, IL 61801
(217) 344-1481,ext. 260

FORMAL NAME OF COLLECTION: Lithologic samples
COLLECTION DESCRIPTION: Coal samples from mines
Data and Specimens
COMMON NAME: Coal
PURPOSE OF COLLECTION: Collection is for chemical, mineralogical, petrographic, engineering, and related studies of coal
SAMPLING LOCATION:
    STATE: Illinois; Indiana; Kentucky
PRESAMPLING CONDITIONS: Most of the samples were collected from coal mines
DATES OF SAMPLING: 1920 to present
NUMBER OF SAMPLES: 5,000
RESULTS OF ANALYSES: None
SAMPLING METHODS: Samples are from drill cores, face channels, and grab samples
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: Air dried
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Polyethylene
    LIGHT EXPOSURE: Opaque containers
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Samples and data available
ADDITIONAL INFORMATION: We have an extensive collection of coal mine roof shales

<203>
John C. Green
Dept. of Geology; University of Minnesota;
Duluth, MN 55812
(218) 726-7238

COLLECTION DESCRIPTION: Minerals, fossils, ores and rocks including major element analyses
Data and Specimens
PURPOSE OF COLLECTION: Research and reference collections
SAMPLING LOCATION:
    STATE: Minnesota
    GEOGRAPHICAL AREA: Japan; Iceland; Europe; South America; Ontario
DATES OF SAMPLING: 1950 to present
NUMBER OF SAMPLES: Minerals 3100; Fossils 1800; Rocks 5000
RESULTS OF ANALYSES: Variety of minerals rocks, fossils, ores; major element analyses of about 30 samples (rocks)
SAMPLING METHODS: Hit outcrop with hammer, pick up sample; site selection by geologic judgment not random or grid
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Wood or steel cabinets
    HUMIDITY: None
    LIGHT EXPOSURE: Occasional
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available in general

COMPONENT OF INTEREST: MINERALOGY

<204>
Philip M. Cook
Technical Case Coordinator; U.S. Environmental
Protection Agency; National Water Quality
Laboratory; 6201 Congdon Boulevard; Duluth, MN
55804
(218) 727-6692, ext. 574

COLLECTION DESCRIPTION: Suspended and bottom
sediments; Oligotrophic lake and river water;
snow; asbestiform and asbestos samples
Data and Specimens
PURPOSE OF COLLECTION: Reserve Mining Case;
Asbestiform mineral studies; general mineralogy
of suspended and settled sediment; asbestos
standards
SAMPLING LOCATION:
STATE: Minnesota; Wisconsin; Michigan
GEOGRAPHICAL AREA: Western Lake Superior Area
DATES OF SAMPLING: 1968 to date
NUMBER OF SAMPLES: Thousands
SAMPLING METHODS: Sediment cores, tap water,
river water, river bottom sediment, lake
water-Kemmerer samples, melted snow
TEMPORARY CONTAINER: Polyethylene containers
PERMANENT STORAGE PREPARATION: Intact Storage;
Fractionated
DRYING: Most water samples suspended solids
on membrane filters
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: 4 Degrees C
LIGHT EXPOSURE: Dark
AVAILABILITY OF SAMPLES AND/OR DATA: Possibly
samples; Data available

<205>
Neil F. Shimp; Charles Collinson; David L. Gross
367 Natural Resources Bldg.; Urbana, IL 61801
(217) 344-1481

FORMAL NAME OF COLLECTION: Fresh-water
argillaceous sediments and muds
COLLECTION DESCRIPTION: Freshwater argillaceous
sediments and muds
Data and Specimens
PURPOSE OF COLLECTION: Distribution of clay
minerals in Mississippi Drainage Basin; Pollution
studies
SAMPLING LOCATION:
STATE: Illinois
GEOGRAPHICAL AREA: Lake Peoria; Fox chain of
Lakes; Reservoirs of S. Illinois;
Mississippi River drainage
DATES OF SAMPLING: 1960 to present
NUMBER OF SAMPLES: 600
RESULTS OF ANALYSES: Clay sediments and muds
SAMPLING METHODS: Hand-collected samples from
recently deposited muds, grab samples, and cores.
TEMPORARY CONTAINER: Plastic bags
DELAY BEFORE PERMANENT STORAGE: Less than 2 weeks
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Dried at 110 degrees C prior to
storage
PERMANENT STORAGE CONDITIONS.
CONTAINER: Glass bottles
STORAGE LIFE OF SAMPLE: Permanent
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and
data available.
ADDITIONAL INFORMATION: Some marine sediments
from Gulf of Mexico, Atlantic and Pacific Oceans
also on file (approx. 100).

<206>
Dennis Cassidy
Antarctic Marine Geological Research
Facility;Dept. of Geology;Florida State
University;Tallahassee, FL 32306
(904) 644-2407

COLLECTION DESCRIPTION: Antarctic core collection
Data and Specimens
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Antarctica
PUBLICATIONS: Cassidy, D.S. and George A. Devore;
Antarctic Marine Geology Research Facility and
Core Library. Antarctic Journal, pp. 120-128,
May-June 1973.; Cassidy, Dennis S. and Sherwood
W. Wise; Antarctic Marine Geology Research
Facility, 1973-1974. Unpublished Draft.

<207>
Michael E. Field
Geology Branch; USA Coastal Engineering Research
Ctr.; Kingman Bldg.; Ft. Belvoir, VA 22060
(202) 325-[illegible]

COLLECTION DESCRIPTION: Marine bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: Geological survey
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Continental Shelf;
Eastern United States
DATES OF SAMPLING: 1964 to present
NUMBER OF SAMPLES: 1130
RESULTS OF ANALYSES: Sands, mud, gravel
SAMPLING METHODS: Cores
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Size analysis
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic tubes (core liners)
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Yes, through
University of Texas at Arlington Repository.
Some samples not available for studies to be
published

<204>

COMPONENT OF INTEREST: MINERALOGY

<206>
David L. Gross; Charles Collinson; Neil F. Shimp
Illinois State Geological Survey; Natural
Resources Bldg.; Urbana, IL 61801
(217) 344-1481

FORMAL NAME OF COLLECTION: Bottom sediment samples
COLLECTION DESCRIPTION: Soils, bedrock, and
bottom sediments from Lake Michigan; invertebrate
fossils
Data and Specimens
PURPOSE OF COLLECTION: Research and public
service on geology of Lake Michigan
SAMPLING LOCATION:
STATE: Illinois; Indiana; Wisconsin; Michigan
GEOGRAPHICAL AREA: Lake Michigan
DATES OF SAMPLING: 1968 to present
NUMBER OF SAMPLES: About 6000
RESULTS OF ANALYSES: Lacustrine sediment and
glacial tills
SAMPLING METHODS: Remotely operated grab samplers
and coring devices, equipment used from research
ships
TEMPORARY CONTAINERS: CAB plastic core liners or
plastic bags
TEMPORARY STORAGE PROCEDURES: Sample kept at 4
degrees C until opened and dried
DELAY BEFORE PERMANENT STORAGE: Less than one year
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: A few cores have been kept frozen
DRYING: Mostly air dried
OTHER: Some cores kept at 4 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINERS: Paper envelopes or cloth bags
TEMPERATURE: Heated warehouse
HUMIDITY: Heated warehouse
LIGHT EXPOSURE: Variable
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Unlimited
AVAILABILITY OF SAMPLES AND/OR DATA: Available to
all researchers, 8 am to 5 pm weekdays, at the
Illinois State Geological Survey

<209>
Robert A. Sweeney
Great Lakes Laboratory; State University College;
1300 Elmwood Ave.; Buffalo, NY 14222
(716) 862-5422

COLLECTION DESCRIPTION: Lake bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: To study chemical,
physical and biological nature of sediment.
SAMPLING LOCATION:
CITY: Cleveland
STATE: Ohio
GEOGRAPHICAL AREA: Lake Erie
NUMBER OF SAMPLES: 600 ponar; 150 cores
SAMPLING METHODS: Ponar and k-b corer
TEMPORARY CONTAINERS: Polyethylene (wet sediment);
glass (dry sediment)
TEMPORARY STORAGE PROCEDURES: 4 degrees C prior
to analyses
PERMANENT STORAGE PREPARATION: Intact storage
FREEZING: -15 degrees C
LOW TEMPERATURE ASHING: 103 degrees C
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: Ambient
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and
data possibly available

<210>
Kenneth K. Barnes
Dept. of Soils Water & Engineering; University of
Arizona; Tucson, AZ 85721
(602) 884-2278

COLLECTION DESCRIPTION: Water and soil samples
Data and Specimens
PURPOSE OF COLLECTION: Analysis service
SAMPLING LOCATION:
STATE: Arizona
DATES OF SAMPLING: Soil: 1955 to present; Water:
1940 to present
NUMBER OF SAMPLES: 15,000 water; 4000 soil
PERMANENT STORAGE PREPARATION: Intact Storage
AVAILABILITY OF SAMPLES AND/OR DATA: Available;
samples negotiable

<211>
Robert S. Pierce
Northeastern Forest Expt. Station; P.O. Box
640; Durham, NH 03824
(603) 868-5576

COLLECTION DESCRIPTION: River water samples
Data and Specimens
PURPOSE OF COLLECTION: Determine baseline water
quality and changes resulting from vegetative
manipulation of forests
SAMPLING LOCATION:
CITY: West Thornton
COUNTY: Grafton
STATE: New Hampshire
GEOGRAPHICAL AREA: Hubbard Brook
Experimental Forest
PRESAMPLING CONDITIONS: Forest in relatively
undisturbed state for 50 yrs.
DATES OF SAMPLING: 1963 to present
NUMBER OF SAMPLES: Several thousands
RESULTS OF ANALYSES: Water
SAMPLING METHODS: By hand
TEMPORARY CONTAINERS: Polyethylene
TEMPORARY STORAGE PROCEDURES: Samples frozen
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: Below freezing
CHEMICAL STABILIZATION: 2 ml of
chloroform/500 ml sample
AVAILABILITY OF SAMPLES AND/OR DATA: Limited

<212>
Wayne T. Swank
Coweeta Hydrologic Laboratory; P.O. Box 601; U.S.
Forest Service; Franklin, NC 28734
(704) 524-2128

COLLECTION DESCRIPTION: River water samples
Data Collection Only
PURPOSE OF COLLECTION: To develop nutrient
budgets for undisturbed and manipulated forest
ecosystems
SAMPLING LOCATION:
CITY: Franklin
COUNTY: Macon
STATE: North Carolina
PRESAMPLING CONDITIONS: Natural Streams
DATES OF SAMPLING: 1969 to present
NUMBER OF SAMPLES: 9
RESULTS OF ANALYSES: Ca, Mg, Na, NO(3), NH(4), P,
Si, SO(4), Cl, K

COMPONENT OR CATEGORY: MINERALOGY

<213>
Commander/Director
Atmospheric Sciences Laboratory; U.S. Army
Electronics Command; ATTN: AMSEL-BL-AS([illegible]);
White Sands Missile Range, NM 88002
FTS: (505) 678-3226; (505) 678-2926

COLLECTION DESCRIPTION: Air particulate samples
Data and Specimens
PURPOSE OF COLLECTION: Atmospheric Particulate Survey
SAMPLING LOCATIONS:
STATE: New Mexico
GEOGRAPHICAL AREA: White Sands Missile Range
DATES OF SAMPLING: 1967-1976 (not continuous)
AREA(S) OF ANALYSIS: Mineralogical, number concentration, optical properties
SAMPLING METHODS: Membrane filter, impactor and in situ analysis without sample retention
TEMPORARY CONTAINERS: Plastic (petri dishes)
TEMPORARY STORAGE PROCEDURES: Place dust-laden membrane filter in petri dish
PRIOR TO/FOR PERMANENT STORAGE: Not in direct contact with container
PERMANENT STORAGE PREPARATION: Intact storage
OTHER: Several hundred samples of atmospheric dust as collected by air filtration through 25 mm diameter membrane filters (silver and plastic) are available. Each sample contains in excess of 200 micrograms of dust but rarely more than a few mg. Infrared absorption spectra from 2.5 to 50 micrometers are available for each sample. Samples collected 1.5 m above ground at various sites. In situ measurements of number concentration and size distribution have been made and are available, but these data are, in general, not applicable to above samples
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic (petri dish)
TEMPERATURE: none
HUMIDITY: none
LIGHT EXPOSURE: rare
STORAGE MEDIA: air
AVAILABILITY OF SAMPLES AND/OR DATA: Arrangements may be made through Commander/Director, Atmospheric Sciences Laboratory, White Sands Missile Range, NM

COMPONENT OF INTEREST: ORGANIC
(SEE ALSO 1, 2, 7, 11, 15, 18, 20, 29, 31, 37, 39, 45, 55, 63, 71, 76, 81, 86, 91, 93, 97, 98, 100, 101, 105, 106, 108, 109, 112, 126, 128, 136, 141, 142, 147, 150, 160, 161, 162, 163, 164, 186, 188, 190, 200, 202, 206, 209, 211, 215, 195, 425, 510, 628)

<214>
S.P. Pavlou
Dept. of Oceanography;University of
Washington;Seattle, WA 98195
(206) 543-9412

COLLECTION DESCRIPTION: Marine algae; organic detritus; estuarine and marine bottom sediments; eutrophic and oligotrophic lake water; river water; estuarine and coastal seawater
Data and Specimens
PURPOSE OF COLLECTION: Trace organic analysis; chemical inhibition; bioaccumulation
SAMPLING LOCATION:
STATE: California; Washington
GEOGRAPHICAL AREA: Puget Sound; Southern California Bight; Pacific Ocean; Mediterranean Sea, Northwestern African Coast
DATES OF SAMPLING: Continuous
NUMBER OF SAMPLES: 500
SAMPLING METHODS: Filter; Water bottles; Nets
TEMPORARY CONTAINERS: Glass jars
TEMPORARY STORAGE PROCEDURES: Frozen
DELAY BEFORE PERMANENT STORAGE: 1 to 3 months, then analyzed
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: 0 to 10 degrees
LYOPHILIZATION: For sediments and plankton
AVAILABILITY OF SAMPLES AND/OR DATA: Can be arranged upon early request for intercalibration purposes

<215>
Arlen L. Edgar
Dept. of Biology;Alma College;Alma, MI 48801
(517) 463-4629

COLLECTION DESCRIPTION: General museum collection including aquatic and terrestrial algae, fungi, bryophytes, tracheophytes, pteridophytes, and spermatophytes; aquatic, marine, and terrestrial vertebrates and invertebrates; bedrock and lake and river bottom sediments; pollen reference collection.
Data and Specimens
PURPOSE OF COLLECTION: Teaching; Research; Museum
SAMPLING LOCATION:
STATE: Michigan
GEOGRAPHICAL AREA: Gulf Coast; Midwestern United States
NUMBER OF SAMPLES: Plants: Algae-25, Fungi-300, Bryophyta-100, Tracheophyta-7500, Pteridophyta-500, Spermatophyta-7000. Animals: Vertebrates-1050, Invertebrates-2500. Crustal materials: Bedrock-900, Bottom Sediments-750 Pollen-1600
RESULTS OF ANALYSES: Pollen analyses complete on much of sediment collection
TEMPORARY CONTAINER: Some dry (herbaria, skins, skeletal); wet specimens mostly in glass or plastic; some sediments frozen
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -10 degrees C
CHEMICAL STABILIZATION: Alcohol; formalin, FAA
FUMIGATION: Dry plant specimens
DRYING: Plants and vertebrate skins
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available to qualified persons with permission

<216>
Dave Bigelow; Jerry Dodd
NREL-Grassland Biome, Colorado State University;
Ft. Collins, CO 80523
(303) 491-5571

FORMAL NAME OF COLLECTION: Natural Resource Ecology Lab: Bridger Site
COLLECTION DESCRIPTION: Terrestrial tracheophytes; small mammals; soils for nutrient analysis
Data and Specimens
SCIENTIFIC NAME: Festuca idahoensis; Lupinus sericeus
PURPOSE OF COLLECTION: To determine the mineral and nutrient contents of soils and plants
SAMPLING LOCATION:
CITY: Bozeman
COUNTY: Gallatin; Park
STATE: Montana
GEOGRAPHICAL AREA: Bangtail Ranger Station
PRESAMPLING CONDITIONS: Area protected from grazing since the 1930's
DATES OF SAMPLING: Mostly spring, summer and fall 1972
NUMBER OF SAMPLES: 45 soils; 60 plants
SAMPLING METHODS: Clip 1/2 m quadrats for plants (random plots); 10 samples taken for each of 6 sampling dates; Time tube cores for soils, 5 depths at 3 sites for 3 collection dates
TEMPORARY STORAGE PROCEDURES: Dried and ground (Wiley mill)
DELAY BEFORE PERMANENT STORAGE: 1 week in paper sacks maximum
PERMANENT STORAGE PREPARATION: Grinding
PERMANENT STORAGE CONDITIONS:
CONTAINER: plastic jars
TEMPERATURE: 22 degrees C
LIGHT EXPOSURE: Little
STORAGE LIFE OF SAMPLE: Probably long
AVAILABILITY OF SAMPLES AND/OR DATA: Largely available
ADDITIONAL INFORMATION: Additional data is available due to IBP Biome studies. Much of it is available through the NREL. Additional data or material may be found at various sites: some plant and soil material is stored at the Bridger site (T Weaver, Botany, MSU, Bozeman, Mont) and at the Pinon Site (M Morris, Forestry, U of M, Missoula, Montana) for example.

<217>
Wayne R. Pichon
WAPORA, Inc.; RR2; Charleston, IL 61920
(217) 345-0193

COLLECTION DESCRIPTION: Animals, including mammals, birds, reptiles, amphibians, zooplankton, and fish; plants, including bryophytes, lichens, and phytoplankton; lake, river, estuarine, and marine bottom sediments; river, brackish water, and eutrophic lake water samples
Data and Specimens
PURPOSE OF COLLECTION: Environmental research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
PRESAMPLING CONDITIONS: Several of the aquatic samples were in areas of high pollution
DATES OF SAMPLING: 1970 to present
NUMBER OF SAMPLES: 2000 plants
PERMANENT STORAGE PREPARATION: Intact Storage
AVAILABILITY OF SAMPLES AND/OR DATA: May be used or examined at the Charleston office if not confidential.

<218>

COMPONENT OF INTEREST: ORGANIC

<218>
C. Dean Dybing
U.S. Dept. of Agriculture; South Dakota State University; Plant Science Department; Brookings, SD 57006
(605) 688-5116

COLLECTION DESCRIPTION: Flax seeds
Data and Specimens
SCIENTIFIC NAME: Linum usitatissimum L.
COMMON NAME: Flax
PURPOSE OF COLLECTION: Chemical analyses
SAMPLING LOCATION:
    CITY: Brookings
    COUNTY: Brookings
    STATE: South Dakota
PRESAMPLING CONDITIONS: Seed collection from plants in controlled environment as well as samples from plants grown in the field
DATES OF SAMPLING: 1960 to present
NUMBER OF SAMPLES: 4000-6000
RESULTS OF ANALYSES: Determined effects of environment and chemical treatment on fatty acid composition, oil content, seed size
SAMPLING METHODS: Seed obtained from whole plants
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Envelopes in cabinets
    TEMPERATURE: Air conditioned building
    LIGHT EXPOSURE: Dark
AVAILABILITY OF SAMPLES AND/OR DATA: Data and samples available pursuant to customary USDA procedures. Samples are mostly very small. Many would not be available over 0.5 g
ADDITIONAL INFORMATION: Collection is made up of samples collected from plants exposed to varied environmental and chemical treatments as follows: air temperature, root temperature, light intensity, photoperiod, CO2 level, moisture stress, root medium, nutrient level (particularly nitrogen), and treatment with plant growth regulating compounds. Field collections include treatments such as spacing, nitrogen fertilization, defoliation, and growth regulator treatments.

<219>
Mark J. Schneider
Ecosystems Dept.; Battelle Memorial Inst.; Pacific N.W. Lab.; P.O. Box 999; Richland, WA 99352
(509) 942-5830

COLLECTION DESCRIPTION: Economically important fish, shrimp, and crabs
Specimens Only
COMMON NAME: Shrimp, crabs and fish
PURPOSE OF COLLECTION: Baseline survey of economically important fishery species
SAMPLING LOCATION:
    CITY: Zulia
    GEOGRAPHICAL AREA: Venezuela; Lake Maracaibo
DATES OF SAMPLING: November 1970
NUMBER OF SAMPLES: Approximately two dozen
SAMPLING METHODS: Nets, fish market
TEMPORARY CONTAINER: Glass bottles
TEMPORARY STORAGE PROCEDURES: Formaldehyde
PERMANENT STORAGE PREPARATION: Intact storage
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<220>
David L. Thomas
Ichthyological Associates; Box 71-D, R.D. 2; West Brook Lane; Absecon, NJ 08201
(609) 646-8166

COLLECTION DESCRIPTION: Fish and marine macroinvertebrates; terrestrial algae; marine and estuarine bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: Collection of fish and macroinvertebrates for ecological study in relation to proposed floating nuclear plants
SAMPLING LOCATION:
    COUNTY: Ocean; Atlantic
    STATE: New Jersey
    GEOGRAPHICAL AREA: Atlantic Ocean
PRESAMPLING CONDITIONS: Area is relatively natural state
DATES OF SAMPLING: November 1971 to present (October 1976)
NUMBER OF SAMPLES: 3000+
SAMPLING METHODS: Trawls, seines, gill nets, fyke nets, longline, lobster pots, clam dredge, ponar bottom grab, plankton nets; area divided into grids
TEMPORARY CONTAINER: Jars
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: 10% formalin
PERMANENT STORAGE CONDITIONS:
    STORAGE MEDIA: isopropanol alcohol (40%)
AVAILABILITY OF SAMPLES AND/OR DATA: Available for examination; data (both raw and in summary form) are published and available to other researchers
ADDITIONAL INFORMATION: Species list available

<221>
Paul L. Zubkoff; George C. Grant
Environmental Physiology; Virginia Institute of Marine Science; Gloucester Point, VA 23062
(804) 642-2111

COLLECTION DESCRIPTION: Aquatic and marine invertebrates; seawater samples: estuarine, coastal, and marine
Data and Specimens
PURPOSE OF COLLECTION: Inventory of species
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Chesapeake Bay, 37 degrees 23 minutes to Bay mouth
DATES OF SAMPLING: August 1971 - August 1973
NUMBER OF SAMPLES: 600
SAMPLING METHODS: Paired bongo nets with stepped towing
TEMPORARY CONTAINER: Polyethylene; glass
TEMPORARY STORAGE PROCEDURES: Formalin for preserved; dry ice freezing for frozen species
DELAY BEFORE PERMANENT STORAGE: 12 hours to 48 hours
PERMANENT STORAGE PREPARATION: Homogenization
    FREEZING: -70 degrees C then -20 degrees C
    HIGH TEMPERATURE ASHING: 550 degrees C
    LYOPHILIZATION: Yes
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Polyethylene
    TEMPERATURE: -4 degrees C
    LIGHT EXPOSURE: Dark

COMPONENT OF INTEREST: ORGANIC

<222>
Louise M. Robbins
Dept. of Anthropology-Graham Bldg; University of North Carolina; Greensboro, NC 27412
(919) 379-5384

COLLECTION DESCRIPTION: Prehistoric charred corn (1100 A.D.); charred hickory nut shells (1,000 to 2,000 B.C.); plant seeds from mummified human intestines (10 B.C. to 10 A.D.); modern clay samples of geophagy
Data and Specimens
PURPOSE OF COLLECTION: Prehistoric health and diet studies
SAMPLING LOCATION:
    STATE: Kentucky; Ohio; Mississippi; Louisiana
PRESAMPLING CONDITIONS: Human occupied areas (prehistoric)
DATES OF SAMPLING: 1969 to present
NUMBER OF SAMPLES: Approx. 100
SAMPLING METHODS: Excavations; Dissection of mummies; Geophagic activities
TEMPORARY STORAGE PROCEDURES: Non-contaminated
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    TEMPERATURE: Moderate range
    HUMIDITY: Reduced humidity
    LIGHT EXPOSURE: Dark storage
    STORAGE MEDIA: Air or anaerobic environment
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Portions of samples and all available data are shared with competent and qualified researchers

COMPONENT OF INTEREST: RADIONUCLIDES

(SEE ALSO 5, 10, 24, 26, 28, 32, 35, 43, 52, 53, 70, 75, 76, 79, 98, 101, 117, 129, 190, 191, 208, 235, 249, 367, 658)

<223>
Charles Porter
Eastern Environmental Radiation Facility; P.O. Box 3009; Montgomery, AL 36193
(205) 272-3402

COLLECTION DESCRIPTION: Plants; vertebrate and invertebrate animals; normal human bone samples; marine, lake, and river bottom sediments; soils; river water; air particulate samples
Data and Specimens
PURPOSE OF COLLECTION: Environmental radiation monitoring
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: United States
PRESAMPLING CONDITIONS: Samples were primarily collected as part of Radiation Surveillance Network in connection with the Bureau of Radiological Health and the Environmental Protection Agency
DATES OF SAMPLING: 1960 to Present
NUMBER OF SAMPLES: Thousands
SAMPLING METHODS: Samples were taken primarily by state health department personnel to represent radiation influences on the environment and public health.
TEMPORARY CONTAINER: Polyethylene cartons
TEMPORARY STORAGE PROCEDURES: Labeled and stored in cardboard boxes
PERMANENT STORAGE PREPARATION: Homogenization
    HIGH TEMPERATURE ASHING: 500 degrees C
    RADIATION: Environmental levels
AVAILABILITY OF SAMPLES AND/OR DATA: Data and portions of certain samples

<224>
Eugene J. Michael
Bureau of Radiation Surveillance Network; Room 406; 50 Wolf Road; Albany, NY 12201
(518) 457-6600

COLLECTION DESCRIPTION: Algae and lichens; aquatic, marine and terrestrial vertebrates; soils and bottom sediments; eutrophic and oligotrophic lake water samples; river and seawater samples; air and precipitation samples.
Data and Specimens
PURPOSE OF COLLECTION: Analysis of specimens for natural and man-made radionuclides
SAMPLING LOCATION:
    STATE: New York
DATES OF SAMPLING: 1955 to present
NUMBER OF SAMPLES: Approx. 1,000 samples per year
PERMANENT STORAGE PREPARATION: Intact Storage; Fractionated; Homogenization
    LOW TEMPERATURE ASHING: Animal tissues: 150 degrees C
    HIGH TEMPERATURE ASHING: 550-600 degrees C
    RADIATION: Neutron activation analysis or chemical yield determination
PERMANENT STORAGE CONDITIONS: No permanent storage of specimens
AVAILABILITY OF SAMPLES AND/OR DATA: Data available on quarterly and annual bulletins
PUBLICATIONS: Cashman, Thomas J. and William G. Bentley; Radioactivity in Air, Milk, and Water (quarterly) and Environmental Radiation in New York State (annually). New York State Department of Environmental Conservation.
ADDITIONAL INFORMATION: Samples are collected and prepared for various analysis by different methods. The isotope in question determines samples preparation. Specimens collected are usually determined after an investigation of the most likely critical path from the nuclear facility to man.

<225>
Vaughan T. Bowen
Chemistry Department; Woods Hole Oceanographic Institution; Water St.; Woods Hole, MA 02543
(617) 548-1400, ext. 330

COLLECTION DESCRIPTION: Marine Animals; Marine and lake bottom sediments; Eutrophic freshwater lakes; Coastal and marine seawater; Air particulates
Data and Specimens
COMMON NAME: Corals; Sponges; Plankton
PURPOSE OF COLLECTION: Replicate Samples for study of fallout radioactivity
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Lake Ontario; Atlantic Ocean; Pacific Ocean; Arctic Ocean; Antarctic Ocean
DATES OF SAMPLING: 1958 to present
NUMBER OF SAMPLES: Hundreds
SAMPLING METHODS: Nets; gravity corers; Pumps; 100-liter Kel-F lined water bottles
TEMPORARY CONTAINER: Polyethylene (water), polystyrene (sediments), glass or polystyrene (organisms)
PERMANENT STORAGE PREPARATION: Intact Storage
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Conditional on purpose and demands of program

<226>
A.H. Seymour; V.A. Nelson; W.R. Schell
Laboratory of Radiation Ecology; College of Fisheries; University of Washington; Seattle, WA 98105
(206) 543-4257

COLLECTION DESCRIPTION: Wild and domestic aquatic, marine, and terrestrial algae; aquatic, marine, and terrestrial vertebrates and invertebrates; soils and lake, river, estuarine, and marine bottom sediments; fresh-, river, ground-, and brackish water; estuarine, coastal, and marine seawater; physical air particulate analysis
Data and Specimens
SAMPLING LOCATION:
    STATE: Alaska; Washington
    GEOGRAPHICAL AREA: Amchitka Island; Cape Thompson; Lake Washington; Puget Sound; shore and coastal areas of Washington; Satsop, Washington; Central Pacific; Marshall Islands.
DATES OF SAMPLING: 1946, Marshall Is. & Cen. Pac.; 1959, Cape Thompson; 1965, Amchitka; 1959, Wa. Coast; 1973, Satsop; 1968, Pug. Sd; 1971, Lake Wa.
NUMBER OF SAMPLES: Thousands
RESULTS OF ANALYSES: Alpha-beta, gamma-emitting radionuclides; heavy metals.
TEMPORARY CONTAINER: Mostly dried specimens in plastic bags.
PERMANENT STORAGE PREPARATION. Intact Storage; Fractionated; Homogenization
    RADIATION: Fallout; Hanford reactor effluent; less than one mrad per year
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Many conditions no environmental controls.
AVAILABILITY OF SAMPLES AND/OR DATA: Yes, upon request to Laboratory Director

<227>

COMPONENT OF INTEREST: RADIONUCLIDES

<227>
Donald W. Hendricks
[illegible] Radiation Operations; P.O. Box 15027; Las Vegas, NV 89114
(702) 734-2969, ext. 305

COLLECTION DESCRIPTION: Soil; lake and river bottom sediments; freshwater, river, and groundwater; and physical air particulate sample analysis and collection for radiological analysis
Data and Specimens
PURPOSE OF COLLECTION: Possible future re-analysis, cross-checks, or analysis for additional information or procedures
SAMPLING LOCATION:
    STATE: Colorado; Utah; New Mexico; Arizona; Oregon; Texas; Idaho
    GEOGRAPHICAL AREA: Main sampling locations surrounding Nevada Test Site and other Nuclear Device Testing Sites such as Trinity Site, New Mexico. Also sampling around inactive uranium mill sites in Western States, e.g., CO, UT, NM, AZ, OR, TX, and ID.
DATES OF SAMPLING: Jan. 1973 through Sept. 1974
NUMBER OF SAMPLES: Soil: approximately 500, Water: 30, Air filter sections: 200
RESULTS OF ANALYSES: Radiation levels at contact usually less than 2 mR/hr.
SAMPLING METHODS: Air by high volume air sampling. Water by Soil by standardized depth and sample volume procedures
PERMANENT STORAGE PREPARATION: Intact Storage; Fractionated
    DRYING: Soil samples only
    OTHER: Soil samples pulverized to less than 100 Mesh.
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Usually plastic bottles for water and soil, glassine envelopes for air filters
STORAGE LIFE OF SAMPLE: water about 1 year; air-indefinite; soil-indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Most data are available upon written request. Depending on available quantity, samples may be available.

<228>
James H. Jenkins
Dept. of Wildlife Management; School of Forest Resources; University of Georgia;Athens, GA 30601
(404) 542-1373

COLLECTION DESCRIPTION: Aquatic and terrestrial vertebrates including fish, reptiles, birds, and mammals; Water samples from rivers, freshwater lakes, estuaries, and coastal and marine areas
Data Collection Only
PURPOSE OF COLLECTION: Bioaccumulation factors
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Southeast United States
DATES OF SAMPLING: 1965 - 1975
NUMBER OF SAMPLES: 13,000
ADDITIONAL INFORMATION: Specimens not retained, however, several thousand whole body counts of gamma emitters on many species of fish, reptiles, birds and mammals have been done. The original gamma scans are filed. The isotopes usually found is Cs137.

<229>
Evan Campbell
Los Alamos Scientific Laboratory; P. O. Box 1663; Los Alamos, NM 87544
(505)667-6235

COLLECTION DESCRIPTION: Human organs and bones, diseased and normal
Data and Specimens
SCIENTIFIC NAME: Homo Sapien
COMMON NAME: Human
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: United States
PRESAMPLING CONDITIONS: Very limited
DATES OF SAMPLING: 1950 to present
NUMBER OF SAMPLES: Approx. 600
RESULTS OF ANALYSES: Total organ in nitric acid solution
SAMPLING METHODS: Autopsy
TEMPORARY CONTAINER: Pyrex volumetric
PERMANENT STORAGE PREPARATION: Fractionated
    FREEZING: -10 degrees C
    CHEMICAL STABILIZATION: Nitric Acid, 2N AD
    LYOPHILIZATION: 10-20g
    DRYING: Vacuum dry at room temperature
ADDITIONAL INFORMATION: 3 fractions: a) 10 gm frozen as received; b) 10-20 gm vacuum dried - stored in freezer; c) Remaining part of whole organ-dry-wet ash; Interest: plutonium

<230>
Edward P. Hardy, Jr., USAEC
376 Hudson Street; New York, NY 10014
(212) 620-3623

COLLECTION DESCRIPTION: Soil samples; air particulate samples
Data and Specimens
PURPOSE OF COLLECTION: Analysis for long-lived radioactive isotopes
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide; Western Hemisphere
PRESAMPLING CONDITIONS: Soil from areas undisturbed for 20 years.
DATES OF SAMPLING: 1960 to present
RESULTS OF ANALYSES: Strontium 90; Cesium 137; Plutonium isotopes
TEMPORARY CONTAINER: Polyethylene bottles for pulverized soils; microsorban filters
AVAILABILITY OF SAMPLES AND/OR DATA: By special request
ADDITIONAL INFORMATION: Soils, worldwide: air particulates, western hemisphere

<231>
G.J. Miller
Division of Biochemistry; P.O. Box 3944
University Sta.; University of Wyoming, Laramie, WY 820711
(307) 766-5199

COLLECTION DESCRIPTION: Groundwater and river water samples
Specimens Only
PURPOSE OF COLLECTION: Assay of radioactivity with reference to nearby uranium mines
SAMPLING LOCATION:
    COUNTY: Carbon
    STATE: Wyoming
DATES OF SAMPLING: July, 1974
NUMBER OF SAMPLES: 2-stream, 3-groundwater
SAMPLING METHODS: One-gallon plastic bottle
TEMPORARY CONTAINER: Plastic
TEMPORARY STORAGE PROCEDURES: Filtered, vacuum concentrated
DELAY BEFORE PERMANENT STORAGE: 18 hrs.
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    TEMPERATURE: Refrigerated
    HUMIDITY: Capped bottles
AVAILABILITY OF SAMPLES AND/OR DATA: Data available

COMPONENT OF INTEREST: RADIONUCLIDES

<232>
Stuart C. Black
National Environmental Research Center; P.O. Box 15027; Las Vegas, NV 89114
(702) 736-2969 Ext. 378

COLLECTION DESCRIPTION: Soil and air samples for radionuclide concentration analysis
Data and Specimens
PURPOSE OF COLLECTION: Measurement of radionuclide concentration
SAMPLING LOCATION:
    COUNTY: Clark; Nye
    STATE: Nevada
    GEOGRAPHICAL AREA: United States; West of Mississippi River;
DATES OF SAMPLING: November 1966 (air) April 1971(soil) to present
NUMBER OF SAMPLES: Approx. 15,000 (Air filters); 1100 (soil); 49 stations for air sampling
RESULTS OF ANALYSIS: Bulk surface soil samples and glass fiber filters from air samplers
SAMPLING METHODS: Soil scoop for 10x 10x5 cm (10 scoops combined). Air filters are 3-day particulate samples on glass fiber filters from samplers operating at 20 cfm
TEMPORARY CONTAINER: Glassine envelopes for air filters
TEMPORARY STORAGE PROCEDURES: Filters removed from air sampler, placed in glassine and mailed to laboratory.
DELAY BEFORE PERMANENT STORAGE: 1-2 weeks
PERMANENT STORAGE PREPARATION:
Homogenization;Intact Storage
    DRYING: Soil: 24 hr. at 110 degrees C
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Polyethylene (soil); glassine envelope (air filter) which was shipping container
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Data are available on request; aliquots may be available under special conditions
PUBLICATIONS: Data from air filters is published periodically in Radiation Data & Reports available from Office of Radiation Programs, U.S. EPA, Washington, D.C.

COMPONENT OF INTEREST: MEDICAL RESEARCH
(SEE ALSO 7, 25, 27, 31, 49, 51, 65, 66, 98, 127, 142, 146, 150, 152, 157, 222)

<233>
Stephen D. Smith
Dept. of Anatomy;University of Kentucky College of Medicine; A.B. Chandler Medical Center;Lexington, KY 40506
(606) 233-5187

COLLECTION DESCRIPTION: Human tissues;bones,organs, and teeth;Monkeys
Specimens Only
SCIENTIFIC NAME: Homo sapiens
PURPOSE OF COLLECTION: Anatomical study
SAMPLING LOCATION:
STATE: Kentucky
PRESAMPLING CONDITIONS: Considerable number are ex-mental patients, others unclaimed or donated bodies.
DATES OF SAMPLING: Continuing
NUMBER OF SAMPLES: Approx 150 bodies
SAMPLING METHODS: Dissection
TEMPORARY CONTAINER: Plastic bags
TEMPORARY STORAGE PROCEDURES: Soft embalming
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Cornell fluid, tech. grade
PERMANENT STORAGE CONDITIONS:
CONTAINER: Type 316 stainless steel and/or polyethylene bins
TEMPERATURE: 5 degrees C
HUMIDITY: 100% humidity
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Kaiserling's fluid, or standard wetting fluid (aqueous glycol, menthol and salicylate
STORAGE LIFE OF SAMPLE: approx 10-15 years
AVAILABILITY OF SAMPLES AND/OR DATA: Free access upon request and authentication of credentials

<234>
T.E. Walton
Arthropod-Borne Animal Diseases Research; USDA-ARS
Denver Federal Center, Bldg. 45; P.O. Box 25327
Denver, CO 80202
(303) 234-2874

COLLECTION DESCRIPTION: Vee viruses; Blood samples from cows, horses, sheep and white-tail deer
Data and Specimens
SCIENTIFIC NAME: Bos taurus, Equus caballus; Odocoileus virginiensis; Ovis aries
COMMON NAME: Cow; Horse; Sheep; Deer
PURPOSE OF COLLECTION: Experimental animals
SAMPLING LOCATION:
STATE: Colorado; Wyoming; Tennessee; Georgia
PRESAMPLING CONDITIONS: Many animals raised here at the center
DATES OF SAMPLING: 1958 to present
NUMBER OF SAMPLES: Several thousand
RESULTS OF ANALYSES: Serum, virus suspensions, blood, antibodies
SAMPLING METHODS: Venipuncture
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -70 degrees C
CHEMICAL STABILIZATION: Protein stabilizing medium for viruses
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass vials
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Could be made available

<235>
Leslie R. Stephens
2315 Grand Ave.;Apt. #3;Everett, WA 98201
(206) 252-0705

COLLECTION DESCRIPTION: Herbarium of terrestrial fungi and lichens
Data and Specimens
PURPOSE OF COLLECTION: Personal herbarium
SAMPLING LOCATION:
STATE: Washington; Idaho
PRESAMPLING CONDITIONS: Most specimens are from relatively undisturbed forest sites.
DATES OF SAMPLING: 1971 to 1974
NUMBER OF SAMPLES: Approx. 100 fungi, Approx. 1,000 lichens
SAMPLING METHODS: Whole specimens usually with a portion of the substrate were collected. Most lichen specimens are epiphytes. Most fungal specimens are saprophytes.
TEMPORARY CONTAINER: Brown paper sacks
TEMPORARY STORAGE PROCEDURES: Specimens are collected in brown paper sacks; after air drying, specimens remain in paper sacks until curated.
DELAY BEFORE PERMANENT STORAGE: A few days to a year
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Paradichlorobenzol 100% crystals; 6 month intervals; 1 teaspoon per 50 packets
DRYING: Air dry
OTHER: Bulky specimens are lightly pressed between wire mesh screens to air dry.
PERMANENT STORAGE CONDITIONS:
CONTAINER: Bonded paper packets filed in metal filing cabinets
HUMIDITY: Silica gel packets
LIGHT EXPOSURE: Minimal
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Fungi and lichen packets will be exchanged or loaned. Data is documented on individual packet labels and in research manuscript

<236>
Thomas M. Sawa
Hawaii Dept. of Agriculture;Veterinary Laboratory Branch; Division of Animal Industry;1428 S. King St.;Honolulu, HI 96814
(808) 941-3071

COLLECTION DESCRIPTION: Animal disease viruses and bacteria; aquatic, marine, and terrestrial domestic and wild vertebrates and invertebrates; brackish water; estuarine, coastal, and marine seawater samples
Data and Specimens
PURPOSE OF COLLECTION: Diagnosis of animal disease
SAMPLING LOCATION:
STATE: Hawaii
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Formalin, paraffin blocks
AVAILABILITY OF SAMPLES AND/OR DATA: On request if available

<237>

COMPONENT OF INTEREST: MEDICAL RESEARCH

<237>
Richard E. Wolke
Dept. of Animal Pathology; Agriculture Exp. Sta.;University of Rhode Island; Kingston, RI 02881
(401) 792-2334

FORMAL NAME OF COLLECTION: Pathology Collection, Peckham Laboratory
COLLECTION DESCRIPTION: Tissue specimens of aquatic, marine, and terrestrial vertebrates and invertebrates for pathological investigation, particularly fish.
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: New England; Worldwide
PRESAMPLING CONDITIONS: Collected on each specimen
DATES OF SAMPLING: Aug. 1970 to present
NUMBER OF SAMPLES: Approx. 2000
SAMPLING METHODS: Unexplained mortalities, clinical signs
TEMPORARY CONTAINER: Plastic bags
TEMPORARY STORAGE PROCEDURES: Formalin
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: 10% formalin
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Other researchers welcome
ADDITIONAL INFORMATION: Our main thrust is piscine pathology. We have some interesting material.

<238>
Robert Grembrink
Oregon Dept. of Human Resources; Health Division; P.O. Box 231; Portland, OR 97207
(503) 229-6241

COLLECTION DESCRIPTION: Wild rodents and insects for disease epidemiology.
Data and Specimens
PURPOSE OF COLLECTION: Reference; range; relation to disease
SAMPLING LOCATION:
STATE: Oregon
DATES OF SAMPLING: 20 years
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Normally available upon request, on site

<239>
Joe A. Quick, Jr.
Florida Dept. Natural Resources; Marine Laboratory; 100 8th Ave. S.E.; St. Petersburg, FL 33731
(813) 896-8626

COLLECTION DESCRIPTION: Tissue and slides of marine algae and fungi; marine and aquatic vertebrates and invertebrates; bacteria; normal and diseased human organs
Data and Specimens
PURPOSE OF COLLECTION: Reference collection of normal and abnormal tissue and organs from Florida marine organisms, especially commercial species
SAMPLING LOCATION:
STATE: Florida
DATES OF SAMPLING: 1960 to present
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Intact storage in 70% ethanol, slides generally 6 micrometers thick mounted undercover glass after vital staining
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens and slides available to interested researchers

<240>
Forest E. Kellogg
College of Veterinary Medicine; University of Georgia; Athens, GA 30601
(404) 542-1781

COLLECTION DESCRIPTION: Tissues, normal and diseased, of wild vertebrates, White tailed deer, Grey squirrel, American Woodcock, Bobwhite quail, Cotton-tail rabbit, Eastern Mourning Dove.
Data and Specimens
PURPOSE OF COLLECTION: Histopathology studies
SAMPLING LOCATION:
STATE: Maryland; Virginia; West Virginia; Kentucky; North Carolina; South Carolina; Tennessee; Georgia; Florida; Alabama; Mississippi; Arkansas; Louisiana
DATES OF SAMPLING: 1958 to present
NUMBER OF SAMPLES: Approx. 25,000
RESULTS OF ANALYSES: Various tissues - normal and diseased
SAMPLING METHODS: Primarily the animals were shot with firearms.
TEMPORARY CONTAINER: Glass
DELAY BEFORE PERMANENT STORAGE: 1 week to 1 yr.
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formalin (10%) buffered
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic trays and cardboard boxes
TEMPERATURE: -12.2 to 37.8 degrees C
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Yes - any request will be evaluated on its own merit and the amount of inconvenience to our personnel

<241>
Lynn A. Griner
San Diego Zoo, Pathology;San Diego Zoological Society; P.O. Box 551;San Diego, CA 92112
(714) 234-5151, ext. 13

COLLECTION DESCRIPTION: Bird, mammal, and reptile tissue from autopsy at death.
Data and Specimens
PURPOSE OF COLLECTION: Pathologic studies of animals dying at the zoo
GEOGRAPHICAL AREA: United States zoos
PRESAMPLING CONDITIONS: Often minimal history-but background information is improving
DATES OF SAMPLING: 1964 to present
SAMPLING METHODS: Necropsy
TEMPORARY CONTAINER: Plastic bottles
TEMPORARY STORAGE PROCEDURES: Formalin fixed, sometimes frozen
AVAILABILITY OF SAMPLES AND/OR DATA: All tissue sectioned and paraffin-blocked available for study at zoo; will be collected as available upon request.
ADDITIONAL INFORMATION: Approx. 900 autopsies are performed yearly. Parasites are often collected. Some bacterial studies are made.

COMPONENT OF INTEREST: MEDICAL RESEARCH

<242>
William J. Boever
St. Louis Zoo; Forest Park; St. Louis, MO 63110
(314) 781-0900, ext. 77

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial vertebrate animal tissue
Specimens Only
PURPOSE OF COLLECTION: To make available for scientific community
SAMPLING LOCATION:
    CITY: St. Louis
    COUNTY: St. Louis
    STATE: Missouri
    GEOGRAPHICAL AREA: St. Louis Zoo; Worldwide
DATES OF SAMPLING: 1965 to present
NUMBER OF SAMPLES: Approx. 2,000 samples
SAMPLING METHODS: Samples from necropsy table
PERMANENT STORAGE PREPARATION: Intact Storage
    FREEZING: -20 degrees C
    CHEMICAL STABILIZATION: Formalin 10%
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    TEMPERATURE: Yes
    HUMIDITY: No
    STORAGE MEDIA: Formaldehyde
AVAILABILITY OF SAMPLES AND/OR DATA: Available for the asking; catalogue will be sent on request

<243>
Duane Fickeisen
Ecosystems Dept.; Battelle Memorial Inst.; Pacific N.W. Lab.; P.O. Box 999; Richland, WA 99352
(509) 942-3177

COLLECTION DESCRIPTION: Freshwater fish
Data and Specimens
COMMON NAME: Teleosts
PURPOSE OF COLLECTION: Reference collection for identification and signs of gas bubble disease
SAMPLING LOCATION:
    COUNTY: Benton; Franklin
    STATE: Washington
    GEOGRAPHICAL AREA: Columbia River; Snake River; Palouse River
DATES OF SAMPLING: 1972 to present
NUMBER OF SAMPLES: Approx. 20
SAMPLING METHODS: Beach seine, hook and line
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    TEMPERATURE: Room
    STORAGE MEDIA: Formaldehyde and ethanol
AVAILABILITY OF SAMPLES AND/OR DATA: On premises
ADDITIONAL INFORMATION: Exposed to supersaturated water in field and/or laboratory

<244>
Albert H. Banner
Hawaii Inst. of Marine Biology; University of Hawaii; P.O. Box 1346; Kaneohe, HI 96744
(808) 247-6631

COLLECTION DESCRIPTION: Marine fish and crustaceans: snapping or pistol shrimp, moray eels, snappers, groupers
Data and Specimens
SCIENTIFIC NAME: Crustacea; Alpheidae; Decapoda
PURPOSE OF COLLECTION: Shrimp: taxonomy and diversity; Fish, study of ciguatera disease
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Johnston Island; Enewetak Island; Bikini Island; Marshall Islands; Tropics
PRESAMPLING CONDITIONS: Atomic testing
DATES OF SAMPLING: Shrimp: 1937 to present; Fish: 1970 to present
NUMBER OF SAMPLES: Approx. 10, 000 shrimp; many fish
PERMANENT STORAGE PREPARATION: Intact Storage
    FREEZING: 0 degrees to -20 degrees C (fish)
    CHEMICAL STABILIZATION: Shrimp: formalin and alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: For legitimate reasons
ADDITIONAL INFORMATION: Shrimp: museum type storage. Fish: held frozen until used in chemical, pharmacological, or immunological studies

<245>
R.M. Bohar
239 Veterinary Medicine; College of Veterinary Medicine; University of Illinois;Urbana, IL 61801
(217) 333-1109

COLLECTION DESCRIPTION: Dairy cow blood serum and feed samples
Data and Specimens
COMMON NAME: Dairy cattle
PURPOSE OF COLLECTION: Metabolic blood profile
SAMPLING LOCATION:
    STATE: Illinois
DATES OF SAMPLING: Sept. 1972 to present
TEMPORARY CONTAINER: Test tubes and plastic cups
AVAILABILITY OF SAMPLES AND/OR DATA: Judged on an individual basis.

<246>
Patrick D. Karns
Big Game Research; Minnesota Dept. of Natural Resources; 501 S. Pokegama Ave.; Grand Rapids, MN 55744
(218) 326-6674

COLLECTION DESCRIPTION: White-tailed deer blood serum samples
Data and Specimens
SCIENTIFIC NAME: Odocoileus virginianus
COMMON NAME: White tailed deer
PURPOSE OF COLLECTION: Research in physiological and environmental ecology
SAMPLING LOCATION:
    STATE: Minnesota
DATES OF SAMPLING: Jan 1969 to present
RESULTS OF ANALYSES: Frozen serum
SAMPLING METHODS: Blood drawn from jugular vein in captured animals or from the heart in shot animals
TEMPORARY CONTAINER: Glass
TEMPORARY STORAGE PROCEDURES: Freezing
PERMANENT STORAGE PREPARATION: Fractionated
    FREEZING: -10 degrees C
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and data available for scientific research projects

<247>

COMPONENT OF INTEREST: MEDICAL RESEARCH

<247>
Ralph A. Vosdingh
Veterinary Dept.; USA Medical Laboratory; Ft. Sam Houston, TX 78234
(512) 221-2015

COLLECTION DESCRIPTION: Equine serum samples
Data and Specimens
SCIENTIFIC NAME: Equus caballus
COMMON NAME: Horse
PURPOSE OF COLLECTION: Testing for equine infectious anemia, chemical and antibody analysis
SAMPLING LOCATION:
STATE: Texas; New Mexico; Oklahoma; Missouri; Kansas
PRESAMPLING CONDITIONS: Horses stabled on military installations
DATES OF SAMPLING: Sept. 1971 to present
NUMBER OF SAMPLES: 2702
RESULTS OF ANALYSES: Testing for presence of EIA antibodies
SAMPLING METHODS: Blood sample from jugular vein
TEMPORARY STORAGE PROCEDURES: Blood sample clotted, serum separated from cells, serum
PERMANENT STORAGE PREPARATION: Fractionated
FREEZING: -20 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass vials
TEMPERATURE: -50 degrees C
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Small quantities (1 ml) available

<248>
Thomas H. Shepard
Dept. of Pediatrics;Central Laboratory for Human Embrology RD-20; University of Washington;Seattle, WA 98195
(206)543-3373

COLLECTION DESCRIPTION: Diseased and normal human fetal tissue
Data and Specimens
PURPOSE OF COLLECTION: Human fetal monitoring
SAMPLING LOCATION:
CITY: Seattle
STATE: Washington
DATES OF SAMPLING: 1967 to present
NUMBER OF SAMPLES: 300 per year
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formalin, 10%
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
LIGHT EXPOSURE: Yes
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<249>
Geno Saccamanno
St. Marys Hospital; Grand Junction, CO 81501
(303) 242-0731

COLLECTION DESCRIPTION: Diseased human tissue slides; sputum for abnormal cells
Data and Specimens
PURPOSE OF COLLECTION: Epidemiology; distribution of metaplasia in tracheo-bronchial epithelium
SAMPLING LOCATION:
CITY: Grand Junction
COUNTY: Mesa
STATE: Colorado
GEOGRAPHICAL AREA: St. Mary's Hospital
DATES OF SAMPLING: 1969 to 1974
NUMBER OF SAMPLES: Approx. 200
RESULTS OF ANALYSES: Tissue slides, Pb(210) analyzed on some
SAMPLING METHODS: Autopsy
TEMPORARY CONTAINER: Polyethylene jars
TEMPORARY STORAGE PROCEDURES: Specimen immersed in formalin
DELAY BEFORE PERMANENT STORAGE: 1 to 3 months
CHEMICAL STABILIZATION: Formalin
RADIATION: Radon daughters specially lead-210 0 to 10,000 rads
DRYING: Sputum slides are dried
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Formalin or mounted slides
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Both samples and data are available subject to approved by Dr. Saccomanno

COMPONENT OF INTEREST: OTHER

<260>
Charles Hayes
367 East Ave.; Rochester Museum & Science Center;
Rochester, NY 14603
(716) 271-4320

COLLECTION DESCRIPTION: Museum collection of plants and crustal materials (soils and bedrock); anthropology collection of diseased and normal human bones, hair, and teeth; birds, mammals, and arthropods
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
    STATE: New York
    GEOGRAPHICAL AREA: Worldwide
AVAILABILITY OF SAMPLES AND/OR DATA: Data and only occasional samples if warranted

<261>
George J. Mueller
Marine Sorting Center Museum;University of Alaska;Fairbanks, AK 99701
(907) 479-7109

COLLECTION DESCRIPTION: Aquatic and marine algae; aquatic, marine, and terrestrial vertebrates and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
    STATE: Alaska
NUMBER OF SAMPLES: 50,000
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    TEMPERATURE: Yes
    HUMIDITY: Yes
    LIGHT EXPOSURE: yes
    STORAGE MEDIA: Formaldehyde; isopropyl alcohol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<262>
J.R. Firby
Mackay School of Mines; University of Nevada at Reno; Reno, NV 89507
(702) 784-6696; (702) 784-6950

COLLECTION DESCRIPTION: Plant and animal fossils; bedrock samples
Data and Specimens
PURPOSE OF COLLECTION: To maintain rock and mineral suites and fossil collections for study and display.
SAMPLING LOCATION:
    STATE: Nevada
    GEOGRAPHICAL AREA: Worldwide
ADDITIONAL INFORMATION: Primarily geological collection - by mining districts (all of Nevada) and individual mines (by depth, shaft/adit, etc.) by age (fossil collections) and systematic phylogeny (fossil collection)

<263>
Richard V.Bovbjerg
Dept. of Zoology; University of Iowa; Iowa City, IA 52242
(319) 353-3421

FORMAL NAME OF COLLECTION: Iowa Lakeside Laboratory, Milford, Iowa 51351
COLLECTION DESCRIPTION: Diatoms, spermatophytes, and terrestrial insects
Specimens Only
SAMPLING LOCATION:
    COUNTY: Dickinson
    STATE: Iowa

<264>
William S. Woolcott
University of Richmond; Box 248; Richmond, VA 23173
(804) 285-6382

COLLECTION DESCRIPTION: Plants, including algae, fungi, embryophytes, and spermatophytes; vertebrates and invertebrates; water samples
Data and Specimens
PURPOSE OF COLLECTION: Research and teaching
SAMPLING LOCATION:
    STATE: Virginia
NUMBER OF SAMPLES: 2500
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: 10% formalin; 40% isopropyl alcohol
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Herbarium; trays
STORAGE LIFE OF SAMPLE: Herbarium: 40 years; Fish: 20 years
AVAILABILITY OF SAMPLES AND/OR DATA: Herbarium and fish

<265>
R. Bruce McMillan
Illinois State Museum; Springfield, IL 62706
(217) 782-7386

COLLECTION DESCRIPTION: Plants including aquatic [illegible] embryophytes, tracheophytes, [illegible], and spermatophytes; aquatic, marine, and terrestrial vertebrates and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Museum Collection
SAMPLING LOCATION:
    STATE: Illinois
DATES OF SAMPLING: Late 1800's to 1974.
NUMBER OF SAMPLES: 100,000 (vertebrates, invertebrates) 68,000 Plant
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Metal cabinets; glass
    TEMPERATURE: 20 - 22.2 degrees C
    HUMIDITY: 45 - 50% R.H.
    LIGHT EXPOSURE: Dark
    STORAGE MEDIA: Air, formaldehyde, PBD, alcohol
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Data available

<266>
Larry Evans
Huntington District;Army Corps of Engineers;P.O. Box 2127;Huntington, WV 25721
(304) 529-2311, ext. 194

COLLECTION DESCRIPTION: Aquatic algae; aquatic vertebrates and invertebrates: Water samples from freshwater lakes
Data and Specimens
PURPOSE OF COLLECTION: Documentation of water quality in Huntington District
SAMPLING LOCATION:
    STATE: Ohio; Kentucky; West Virginia; Virginia
DATES OF SAMPLING: 1968-1974
DELAY BEFORE PERMANENT STORAGE: 1 day to 6 months
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass vials
    STORAGE MEDIA: Ethanol, isopropyl alcohol
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Chemical and physical information available from Storet, D.O. information and/or specimen availability limited
ADDITIONAL INFORMATION: We have 29 reserviors in 4 states from which we have collected physical data and chemical and biological samples. The sampling intensity and duration is variable.

COMPONENT OF INTEREST: OTHER

<267>
Denzel E. Ferguson
P.O. Box 989; Burns, OR 97720
(503) 493-2629

FORMAL NAME OF COLLECTION: Malheur Environmental Field Station
COLLECTION DESCRIPTION: Study specimens of mammals and birds; alcohol or formaldehyde specimens of amphibians reptiles, fish, and some invertebrates; pinned insects; dried plants; data only on algae; mollusks
Data and Specimens
PURPOSE OF COLLECTION: Teaching collection
SAMPLING LOCATION:
COUNTY: Harney; Lake Gravt; Malheur
STATE: Oregon
PRESAMPLING CONDITIONS: Typically overgrazed high-desert range land
DATES OF SAMPLING: 1971 to present
NUMBER OF SAMPLES: 150 mammals; 10 birds; 350 other vertebrates and invertebrates; 1000 insects; 1500 plants
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: paradichlorobenzene
DRYING: whole animals and plants
AVAILABILITY OF SAMPLES AND/OR DATA: Available on field station premises

<268>
T.O. Thatcher
644 S. 5th East; Logan, UT 84321
(801) 752-5920

COLLECTION DESCRIPTION: Insect collection with associated arthropods and plant tissues showing insect damage
Data and Specimens
PURPOSE OF COLLECTION: Taxomomic and ecologic studies on larvae and adults
SAMPLING LOCATION:
GEOGRAPHICAL AREA: North America; W. Europe; Pakistan; N. India; Bangladesch; Worldwide
PRESAMPLING CONDITIONS: Early 1930's in N.A.; 1940's in Western Europe: 1961 - 1962 in Asia - Weather ecological information at time of collection in immediate vicinity recorded on field notes which are on file.
DATES OF SAMPLING: 1929 to present
NUMBER OF SAMPLES: Approx. 40, 000
SAMPLING METHODS: Insects taken by many means - nets, traps, seining, cutting out of bark, wood and other plant tissues.
TEMPORARY CONTAINER: Glass w/rubbercorks (some regular corks)
TEMPORARY STORAGE PROCEDURES: Insects killed with cyanide until 1948, later with ethyl acetate. Adult insects either pinned and dried or are put directly into alcohol 70%. KAAD Larval killing and preserving agent: 10 parts 95% ethyl alcohol, 1 part kerosene, 1 part dioxane, 2 parts glacial acetic acid. Specimens were generally left in this for 1-48 hours after killing then put into 70 - 95% ethyl alcohol (some have been in KAAD for several years).
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Ethyl alcohol, 70%
FUMIGATION: Pinned and dried insects fumigated w/paradichlorobenzene about once a year - a few recently fumigated w/DDVP
DRYING: Air dried
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass or plastic vials for specimens in liquid; wooden pinning boxes for dried specimens
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Air for dried insects, 70% ethyl (a few in Isopropyl) alcohol and a few in formaldehyde
STORAGE LIFE OF SAMPLE: Unknown at present - some are now 45 years old
AVAILABILITY OF SAMPLES AND/OR DATA: Some exchange possible, and also loans to responsible researchers.

<269>
R.A. Peppers
223 Natural Resources Bldg.; Urbana, IL 61801
(217) 344-1481, ext. 224

COLLECTION DESCRIPTION: Fossils from strata related to coal seams
Data and Specimens
PURPOSE OF COLLECTION: Geological survey of coal and related material
SAMPLING LOCATION:
STATE: Illinois; Indiana; Kentucky
DATES OF SAMPLING: 1920 to present
NUMBER OF SAMPLES: 4,500
RESULTS OF ANALYSES: Fossils from strata related to coal seams
SAMPLING METHODS: Hand picked
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Wood
TEMPERATURE: Ambient room temperature
HUMIDITY: None
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and data available
ADDITIONAL INFORMATION: We have a large collection of coal balls also.

<270>
A. Bruce MacLeish
The Kentucky Museum; Western Kentucky University; Bowling Green, KY 42101
(502) 745-4771

COLLECTION DESCRIPTION: Terrestrial plants; aquatic and terrestrial vertebrates and invertebrates; human bones and teeth
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
STATE: Kentucky
DATES OF SAMPLING: 1930 to present
NUMBER OF SAMPLES: Approx. 1000
SAMPLING METHODS: Random donations for most part
PERMANENT STORAGE CONDITIONS:
CONTAINER: Wood and glass cases
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Available for study and non-deterious tests on museum premises.
ADDITIONAL INFORMATION: The museum has ornithological, oological, entymological, and sundry other specimens collected over the past thirty to forty years. These collections have been in static display storage since their arrival.

<271>
J.A. Oppold
267 401 Building; Chattanooga, TN 37401
(615) 755-3125

COLLECTION DESCRIPTION: Aquatic and terrestrial spermatophytes; terrestrial vertebrates; soils, bedrock, and bottom sediments; eutrophic lake water; river water; physical and chemical air particulate data
Data and Specimens
PURPOSE OF COLLECTION: Basic phosphate rock for worldwide comparison; reference animal collection; continuing water and air data base.
SAMPLING LOCATION:
STATE: Kentucky; Tennessee; Alabama; Mississippi; North Carolina

<272>
Steve A. Loe; Bruce Reinhardt
U.S. Forest Service; Six Rivers National Forest, 710 E. St.; Eureka, CA 95501
(707) 442-1721

COLLECTION DESCRIPTION: Terrestrial (forest) lichens, bryophytes, tracheophytes, pteriodophytes, spermatophytes; terrestrial and aquatic vertebrates; bedrock; river water
Data and Specimens
PURPOSE OF COLLECTION: Maintenance of Forest Collection
SAMPLING LOCATION:
STATE: California
GEOGRAPHICAL AREA: Six Rivers National Forest
DATES OF SAMPLING: June 1974 to present
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: We are presently just beginning to put together our collections and catalog.

<273>
Glenn A. Hackwell
Dept. of Biology; California State College, Stanislaus; Turlock, CA 95380
(209) 632-8357

COLLECTION DESCRIPTION: Freshwater biology collection: aquatic plants and invertebrates; freshwater lake and river water samples; terrestrial plants
Data and Specimens
PURPOSE OF COLLECTION: Reference collection for Northern California
SAMPLING LOCATION:
STATE: California
NUMBER OF SAMPLES: Many
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Alcohol

<274>
Nancy Knepper
Geology Museum; Colorado School of Mines; Golden, CO 80401
(303) 279-3381, ext 389

COLLECTION DESCRIPTION: Marine algae; marine mollusks and coelenterates; bedrock samples
Specimens Only
PURPOSE OF COLLECTION: Museum collection
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Limited loan by agreement
ADDITIONAL INFORMATION: This is a paleontology collection with some modern forms-shells only.

<275>
Glenn Longley
Dept. of Biology, Box 46; Southwest Texas State University; San Marcos, TX 78666
(512) 245-2284

COLLECTION DESCRIPTION: Aquatic algae; Aquatic vertebrates and invertebrates; Freshwater samples from lakes, rivers and groundwater
Data and Specimens
PURPOSE OF COLLECTION: Baseline information for the Guadalupe River Basin
SAMPLING LOCATION:
STATE: Texas
GEOGRAPHICAL AREA: Guadalupe, San Antonio, Nueces, Rio Grande Basin
DATES OF SAMPLING: 1963 to present
SAMPLING METHODS: Standard methods for examination of water and wastewater
AVAILABILITY OF SAMPLES AND/OR DATA: Through Dr. Longley
ADDITIONAL INFORMATION: We have data of various types that has been gathered by numerous persons at various times. The aquatic insects have been collected from 60 stations on the Guadalupe River Basin. Data only on the aquatic algae and water samples.

<276>
George R. Waller
Agricultural Experiment Station; Oklahoma State University; Stillwater, OK 74074
(405) [illegible]-6211, ext. 266

COLLECTION DESCRIPTION: General collection of plants; terrestrial vertebrates; organic detritus; water samples
Data and Specimens
AVAILABILITY OF SAMPLES AND/OR DATA: Upon request
ADDITIONAL INFORMATION: We don't have any specimens that are not being constantly used in the agricultural research, extension, teaching; we have not made any attempts to evaluate all of the specimens collections: we will make them available upon request. A considerable amount of what is referred to as the specimen bank survey is housed in the OSU Museum, headed by Dr. Bryes Glass, Zoology Dept.

<277>
Peter Robinson
University of Colorado Museum; Boulder, CO 80302
(303) 492-6165

FORMAL NAME OF COLLECTION: Natural History Collection
COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial algae, fungi, lichens, bryophytes, pteridophytes, spermatophytes, vertebrates, and invertebrates; bedrock samples; diseased human tissue samples
Data and Specimens
SAMPLING LOCATION:
GEOGRAPHICAL AREA: To nearest quarter mile from known location
NUMBER OF SAMPLES: Approx. 1,000,000
FUMIGATION: Paradichlorobenzene
AVAILABILITY OF SAMPLES AND/OR DATA: On loan to qualified research

<278>

COMPONENT OF INTEREST: OTHER

<278>
Arthur H. Harris
Museum of Arid Land Biology; Dept. of Biological Sciences; University of Texas; El Paso, TX 79968
(915) 747-5165

FORMAL NAME OF COLLECTION: Museum of aridland Biology
COLLECTION DESCRIPTION: Aquatic and terrestrial fungi, lichens, tracheophytes, pteridophytes, and spermatophytes; vertebrates and mollusks; human bone samples
Data and Specimens
PURPOSE OF COLLECTION: Preservation for potential future studies; research; teaching
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Southwest United States
DATES OF SAMPLING: Mostly 1965 to present, a few earlier
NUMBER OF SAMPLES: Plants: approx. 1000; vertebrate (recent) approx. 8000
SAMPLING METHODS: Standard natural history methods and project oriented direction
AVAILABILITY OF SAMPLES AND/OR DATA: Both freely available to outside researchers on application to curators
ADDITIONAL INFORMATION: Collections are being switched to computer catalogue base (Selgem) for increased efficiency in cataloging and data retrieval.

<279>
[illegible] J. Ramsey
Dept. of Biology; Lamar University; Box 10037; Beaumont, TX 77710
(713) 838-8221

COLLECTION DESCRIPTION: Terrestrial wild and domestic plants; Aquatic, marine, and terrestrial invertebrates; Birds, fish, mammals, reptiles and amphibians; Bacteria
Data and Specimens
PURPOSE OF COLLECTION: Teaching collection
SAMPLING LOCATION:
    STATE: Texas
DATES OF SAMPLING: Approx. 1964 to present
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Formalin for fish, reptiles and amphibians
    DRYING: Birds, plants, and mammals
STORAGE LIFE OF SAMPLE: Indefinite

<280>
Hugh H. Genoways
The Museum; Texas Tech University; Lubbock, TX 79409
(806) 742-5284

COLLECTION DESCRIPTION: Plants, animals, bedrock, and bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
    STATE: Texas
    GEOGRAPHICAL AREA: Southwest United States; Mexico; Yugoslavia; North Africa; Central America; Antarctica
DATES OF SAMPLING: 1961 to present
NUMBER OF SAMPLES: Numerous
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Specimens are stored in metal and wooden cabinets
AVAILABILITY OF SAMPLES AND/OR DATA: Available on loan by request to appropriate curator
ADDITIONAL INFORMATION: Species list and computer printout available

<281>
John Ransom
Dept. of Biology;Kansas State College;Emporia, KS 66801
(316) 342-1200, ext. 311

COLLECTION DESCRIPTION: Plants; aquatic and terrestrial vertebrates and invertebrates; river water samples
Data Collection Only
PURPOSE OF COLLECTION: U.S.Corps of Engineers environmental inventory
SAMPLING LOCATION:
    CITY: Cedar Point; Eldorado
    COUNTY: Chase; Butler
    STATE: Kansas
    GEOGRAPHICAL AREA: Cedar Creek Basin; Walnut River
PRESAMPLING CONDITIONS: No sampling ever done before
DATES OF SAMPLING: Spring, summer, winter
NUMBER OF SAMPLES: 4 to 10
AVAILABILITY OF SAMPLES AND/OR DATA: Data available

<282>
William A. Cooper
Dept. of Biology;West Texas State University;Canyon, TX 79016
(806) 656-3238

COLLECTION DESCRIPTION: Terrestrial tracheophytes and spermatophytes; Vertebrates and invertebrates including fish, reptiles, mammals, amphibians, birds, and insects; Water samples from rivers and eutrophic and dystrophic lakes.
Data and Specimens
PURPOSE OF COLLECTION: Teaching
SAMPLING LOCATION:
    STATE: Texas; Oklahoma; New Mexico
    GEOGRAPHICAL AREA: Panhandle-Plains
DATES OF SAMPLING: 1958 to present
TEMPORARY CONTAINER: Mammals and birds - freezer; Fish and herps - alcohol, formaldehyde
PERMANENT STORAGE CONDITIONS:
    STORAGE MEDIA: Alcohol; formaldehyde
ADDITIONAL INFORMATION: These collections are primarily the result of student collections for course work (except--Dr. Higgins, tracheophytes and water data, Cooper). Incomplete identification on some. Contact: Dr. Derl Brooks-Insects, Dr. W.A. Cooper-fish, herps, mammals, Dr. Larry Higgins-Plants

COMPONENT OF INTEREST: OTHER
(SEE ALSO 5, 12, 27, 36, 45, 59, 60, 78, 84, 91, 98, 102, 107, 111, 112, 119, 120, 140, 144, 145, 167, 169, 178, 182, 189, 190, 193, 195, 199, 203, 220, 244, 641, 651)

<250>
Thomas L. Page
Ecosystems Dept.; Batelle Memorial Inst.; Pacific N.W. Laboratory; P.O. Box 999, Richland, WA 99352
(509) 942-5685

FORMAL NAME OF COLLECTION: WPPSS Monitoring Program Species Reference Collection
COLLECTION DESCRIPTION: Aquatic algae; aquatic vertebrates and invertebrates
Specimens Only
PURPOSE OF COLLECTION: Reference collection
SAMPLING LOCATION:
CITY: Richland
COUNTY: Benton; Franklin
STATE: Washington
GEOGRAPHICAL AREA: Columbia River at the Hanford Reservation
DATES OF SAMPLING: March, 1971 to present
NUMBER OF SAMPLES: Monthly-fish; Quarterly for aquatic invertebrates & algae
SAMPLING METHODS: Standard limnological methods are used
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
STORAGE MEDIA: Formaldehyde
AVAILABILITY OF SAMPLES AND/OR DATA: Samples available. Data available on a limited basis

<251>
Charles M. Kirkpatrick
Dept. of Forestry & Conservation;Purdue University,Lafayette, IN 47907
(317) 494-1476

COLLECTION DESCRIPTION: Terrestrial seed collections; sea otter, fox and gray squirrel tissue samples
Data and Specimens
SAMPLING LOCATION:
COUNTY: Amchitka Island, AK; Tippecanoe, IN
STATE: Alaska; Indiana
PRESAMPLING CONDITIONS: Moribund and normal animals from area of high density
DATES OF SAMPLING: Feb & Mar 1954, sea otters; 1950's, other animal, specimens, 1941-1960, plant seeds
SAMPLING METHODS: Immediate fixation of fresh tissues
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
STORAGE MEDIA: Formaldehyde, 70% alcohol, some embedded in wax
AVAILABILITY OF SAMPLES AND/OR DATA: Available if credit is given
PUBLICATIONS: Stulken, Donald E. and Charles M. Kirkspatricks; Physiological Investigation of Captivity Mortality in the Sea Otter (Enhydra lutris). Transactions of the Twentieth North American Wildlife Conference, March 14-16, 1955; Wildlife Management Institute, Washington, DC
ADDITIONAL INFORMATION: The plant material consists of dried seeds from wild Indiana plants (several hundred), mostly identified to species, all collected before 1960, starting about 1941. Stored in glass vials. Sea otters from Alaska, fox and gray squirrel, Indiana

<252>
J.R. Choate
Museum of the High Plains;Fort Hays Kansas State College;Hays, KS 67601
(913) 628-5664

COLLECTION DESCRIPTION: Extensive plant and animal collection, including aquatic, marine, and terrestrial fungi, embryophytes, bryophytes, tracheophytes, pteridophytes, spermatophytes, vertebrates, and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Systematic and ecological research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: North America
DATES OF SAMPLING: Approx. 1930 to present
NUMBER OF SAMPLES: 271, 000
SAMPLING METHODS: Routine taxonomic collecting methods
PERMANENT STORAGE PREPARATION: Intact Storage; Homogenization
FUMIGATION: Carbon disulfide; paradichlorobenzine
PERMANENT STORAGE CONDITIONS:
CONTAINER: Standard museum cases, jars, and boxes
TEMPERATURE: Marginal
HUMIDITY: None
LIGHT EXPOSURE: Minimal
STORAGE MEDIA: Air (most specimens) and formaldehyde, ethyl alcohol, propyl alcohol, and others
AVAILABILITY OF SAMPLES AND/OR DATA: Permission usually granted by curator, with exceptions

<253>
Roy D. Shenefelt
Dept. of Entomology;346 Russell Laboratory;Madison, WI 53706
(608) 262-1306

COLLECTION DESCRIPTION: Animals; Plants; Human tissues; Crustal Materials; Water samples; Microorganisms
Data and Specimens
PURPOSE OF COLLECTION: Reference and preservation of resources and information for the future
ADDITIONAL INFORMATION: Specimens are collected and preserved by many departments in various colleges within the University at Madison. For example, the Herbarium has over 600,000 sheets, Dept. of Anthropology has 250,000 snails, the insectarium has 1,000,000 specimens. Zoology has a museum for birds, mammals, snakes, etc. Specimens are preserved and prepared in numerous ways. The State Geological and Natural History survey is located here as well as the medical school.

<254>

COMPONENT OF INTEREST: OTHER

<254>
Donald C. Schmiege
Forestry Sciences Laboratory; P.O. Box 909;
Juneau, AK 99901
(907) 586-7301

COLLECTION DESCRIPTION: Terrestrial plants; insects
Data and Specimens
PURPOSE OF COLLECTION: Research collection
SAMPLING LOCATION:
STATE: Alaska
DATES OF SAMPLING: Insects: 1950 to present; Plants: 1923 to present
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Insects: PDB
AVAILABILITY OF SAMPLES AND/OR DATA: Insects: temporary loan or permanent if several samples available

<255>
Max A. Nickerson
Vertebrate Division; Milwaukee Public Museum; 8th and Wells;Milwaukee, WI 53233
(414) 278-2776 (office), (414) 278-2774 (lab), (414) 281-4291 (home)

COLLECTION DESCRIPTION: Fungi; Aquatic, marine, and terrestrial vertebrates and invertebrates; Normal human bones, hair, and teeth; Bedrock samples
Data and Specimens
PURPOSE OF COLLECTION: Systematic and ecological research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1880 to present
NUMBER OF SAMPLES: Approx. 2, 000, 000
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formalin; alcohol
FUMIGATION: Yes, some
LYPHYLIZATION: Some
DRYING: Some
PERMANENT STORAGE CONDITIONS:
CONTAINER: Varied
TEMPERATURE: Yes
HUMIDITY: Yes, for some
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and data available

<256>
Ronald R. Weedon
Dept. of Biology;Chadron State College;Chadron, NB 69337
(308) 432-4451, ext. 295

COLLECTION DESCRIPTION: Bacteria; Plants, including algae, tracheophytes, pteridophytes and spermatophytes; Mammals; Water samples from freshwater lakes
Data and Specimens
PURPOSE OF COLLECTION: Museum collection and teaching collections
SAMPLING LOCATION:
STATE: Nebraska; Wyoming; South Dakota
DATES OF SAMPLING: Approx. 1900 to present
NUMBER OF SAMPLES: Approx. 7, 000 plant samples; Approx. 600 mammals; Approx. 500 misc.
PERMANENT STORAGE CONDITIONS:
CONTAINER: herbarium or mammal cases
TEMPERATURE: Yes
HUMIDITY: Moderate
STORAGE MEDIA: Paradichlorobenzene
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: yes, on loan

<257>
Patrick L. Parker
Marine Science Institute; University of Texas;Port Arkansas, TX 78373
(512) 749-6730

COLLECTION DESCRIPTION: Marine algae; marine vertebrates and invertebrates; marine bottom sediments
Data and Specimens

<258>
Gene E. Likens
Langmuir Laboratory;Section of Ecology & Systematics;Cornell University;Ithaca, NY 14850
(607) 256-3498

COLLECTION DESCRIPTION: Aquatic and terrestrial plants; Aquatic and terrestrial vertebrates; Soil samples; Lake and river bottom sediments; Water samples from rivers and oligotrophic lakes; Air and precipitation samples
Data and Specimens
PURPOSE OF COLLECTION: Study of hydrologic-nutrient cycle interaction in watershed ecosystems
SAMPLING LOCATION:
CITY: Woodstock
COUNTY: Grafton
STATE: New Hampshire
DATES OF SAMPLING: 1963 to present
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Water- stored in polyethylene bottles with chloroform, or frozen; Plant tissue - dried and ground; Animal tissue - Dried and ground, or preserved in ethanol
PUBLICATIONS: Likens, Gene E.; A Checklist of Organisms for the Hubbard Brook Ecosystems. Publication 17. 1972
ADDITIONAL INFORMATION: Recent species list for the Hubbard Brook Ecosystem is available. In some cases we have chemical analysis data only and in some cases we have data and specimens.

<259>
John B. Davis, Jr.
San Diego Natural History Museum; P.O. Box 1390;
San Diego, CA 92112
(714) 232-3821

COLLECTION DESCRIPTION: Marine and terrestrial algae, tracheophytes, pteridophytes and spermatophytes; aquatic, marine, and terrestrial vertebrates and invertebrates; bedrock; lake, river, estuarine and marine bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: Research collections
SAMPLING LOCATION:
GEOGRAPHICAL AREA: North America; United States
DATES OF SAMPLING: Cambrian to Recent
NUMBER OF SAMPLES: 800,000
RESULTS OF ANALYSES: Fossils, whole animals or plants or parts thereof
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal cases (dried specimens); glass bottles with 70% ethyl alcohol
LIGHT EXPOSURE: No sunlight
STORAGE MEDIA: Air, alcohol, or other preservatives
STORAGE LIFE OF SAMPLE: 500 yrs. plus
AVAILABILITY OF SAMPLES AND/OR DATA: Available on site or to other institutions on loan
ADDITIONAL INFORMATION: Vertebrates - 120, 000; Invertebrates - 400, 000; Plants - 200, 000; Fossils - 180, 000

COMPONENT OF INTEREST: OTHER

<283>
H.A. Ferchau
Dept. of Biology;Western State College; Gunnison, CO 81230
(303) 943-2144

FORMAL NAME OF COLLECTION: Herbarium and Animal Collection, Hurst Hall 112
COLLECTION DESCRIPTION: Marine and terrestrial plants; Aquatic and terrestrial vertebrates and invertebrates; Bedrock samples; Bacteria
Data and Specimens
PURPOSE OF COLLECTION: Regional Records; Teaching Collection
SAMPLING LOCATION:
COUNTY: Gunnison
STATE: Colorado
GEOGRAPHICAL AREA: Rocky Mtns.
NUMBER OF SAMPLES: 5000
SAMPLING METHODS: Standard techniques
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Poor conditions
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Study space available, some may be available on loan
ADDITIONAL INFORMATION: We have the traditional plant and animal (vertebrate and invertebrate) collections

<284>
Gerald L. Van Amburg
Dept. of Biology; Concordia College; Moorhead, MN 56560
(218) 299-3520

COLLECTION DESCRIPTION: Terrestrial embryophytes, tracheophytes; spermatophytes, pteridophytes and insects
Specimens only
PURPOSE OF COLLECTION: Museum collection and teaching
SAMPLING LOCATION:
STATE: Minnesota; North Dakota
PERMANENT STORAGE PREPARATION: Specimens Only
PERMANENT STORAGE CONDITIONS:
CONTAINER: Standard herbarium and entomological cases.
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<285>
George E. Lindsay
California Academy of Sciences;Golden Gate Park;San Francisco, CA 94118
(415) 221-5100

COLLECTION DESCRIPTION: Standard museum collection of aquatic, marine, and terrestrial pteridophytes, spermatophytes, vertebrates, and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Museum research collections for systematic studies
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1850 to present
NUMBER OF SAMPLES: 7 million
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Plants and invertebrates
OTHER: Alcohol for fish, reptiles & amphibians
AVAILABILITY OF SAMPLES AND/OR DATA: At cost, to qualified researchers, if specimens are returned undamaged.

<286>
Peter H. Benson
Lockheed Aircraft Service Co.;Dept. of Marine Biology;3380 N. Harbor Drive;San Diego, CA 92101
(714) 298-8245

COLLECTION DESCRIPTION: Marine algae; marine vertebrates and invertebrates; marine bottom sediments; estuarine, coastal, and marine seawater samples
Data and Specimens
PURPOSE OF COLLECTION: Reference collection; environmental monitoring
SAMPLING LOCATION:
STATE: California
GEOGRAPHICAL AREA: Southern California Bight
PRESAMPLING CONDITIONS: Power plant discharge areas (fossil and nuclear fueled)
DATES OF SAMPLING: 1971 to present
RESULTS OF ANALYSES: Population structure
SAMPLING METHODS: Grabs, corers, trawls, traps, nets, pumps, fouling plates, diatometers, hand, long-line
TEMPORARY CONTAINER: Glass
TEMPORARY STORAGE PROCEDURES: Formalin or formalin-alcohol
DELAY BEFORE PERMANENT STORAGE: Weeks to months
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Diatoms, Algae (wet and dry)
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
STORAGE MEDIA: Formaldehyde; isopropyl alcohol; ethyl alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: yes; nondestructive examination of reference collection
ADDITIONAL INFORMATION: Numerous specimens are collected during surveys. Only reference specimens are kept for any appreciable length of time for taxonomic purposes; other specimens are usually discarded after a year or so. All Pisces; all marine invertebrates

<287>
Ron Smith
Arizona Game & Fish Dept.; Research Division; 2222 W. Greenway Road; P.O. Box 9099; Phoenix, AZ 85023
(602) 942-3000

COLLECTION DESCRIPTION: Aquatic and terrestrial bryophytes; terrestrial vertebrates; river and lake bottom sediments and water samples.
Data and Specimens
PURPOSE OF COLLECTION: Research and management data
SAMPLING LOCATION:
STATE: Arizona
PERMANENT STORAGE CONDITIONS:
CONTAINER: Herbarium cabinets

<288>
Zelek L. Lipchinsky
Dept. of Geology; Berea College; Berea, KY 40403
(606) 986-9341, ext. 598

COLLECTION DESCRIPTION: Fossils of plants and animals; rocks and minerals, artifacts
Specimens Only
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: Over 70 years
NUMBER OF SAMPLES: Hundreds
TEMPORARY CONTAINER: All types
TEMPORARY STORAGE PROCEDURES: Standard museum procedure
PERMANENT STORAGE PREPARATION: Intact Storage
ADDITIONAL INFORMATION: We have a typical geology museum with rocks, minerals, artifacts, and fossils collected mainly by alumni per 70 years and sent to us to display.

<289>

COMPONENT OF INTEREST: OTHER

<289>
James N. Layne
Archbold Biological Station;American Museum of Natural History;Route 2, Box 180;Lake Placid, FL 33852
(813) 465-2571

FORMAL NAME OF COLLECTION: Archbold Biological Station, Route 2, Box 180, Lake Placid, Florida 33852
COLLECTION DESCRIPTION: Aquatic and terrestrial plants, including fungi, lichens, bryophytes, tracheophytes, pteridophytes, and spermatophytes; aquatic, marine, and terrestrial vertebrates and invertebrates.
Data and Specimens
PURPOSE OF COLLECTION: Reference collection
SAMPLING LOCATION:
COUNTY: Highlands, FL
STATE: Florida; North Carolina
DATES OF SAMPLING: 1941 to present
NUMBER OF SAMPLES: Bryophytes: 200/Herbarium Sheets: 500/Arthropods: 1000/Vertebrates: 300
PERMANENT STORAGE CONDITIONS:
CONTAINER: Standard museum cases for herbarium sheets, seed vials, and study skins. Insects, arachnids, fishes, amphibians, and reptiles in jars and vials in alcohol.
TEMPERATURE: Yes
HUMIDITY: Yes
LIGHT EXPOSURE: Controlled except for alcoholic collection
STORAGE MEDIA: Air in museum cases, 70% alcohol in alcoholic collection
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: A portion of the vertebrate material has been moved to American Museum of National History, New York, NY 10024

<290>
Burt L. Monroe, Jr.
Dept. of Biology; University of Louisville; Louisville, KY 40208
(502) 636-4431

FORMAL NAME OF COLLECTION: University of Louisville Collections
COLLECTION DESCRIPTION: General collections of plants and animals; including aquatic and terrestrial algae, pteridophytes, spermatophytes, vertebrates, and invertebrates (mainly insects)
Data and Specimens
PURPOSE OF COLLECTION: Research and teaching
SAMPLING LOCATION:
CITY: Louisville
STATE: Kentucky
TEMPORARY CONTAINER: Dry specimens, Lane specimen cases; wet, in ethanol in jars.
PERMANENT STORAGE PREPARATION: Intact Storage

<291>
Joseph C. Cooney
Environmental Biology Laboatory;Tennessee Valley Authority,; Office of Health & Environmental Sci;TVA, E&D Building;Muscle Shoals, AL 35660
FTS (205) 383-4727

FORMAL NAME OF COLLECTION: Entomological and mammalian reference collection, Env. Bio. Branch, E&D Bldg., Sheffield, Alabama
COLLECTION DESCRIPTION: Aquatic and terrestrial vertebrates, insects and acarines; freshwater lake and groundwater samples
Specimens Only
PURPOSE OF COLLECTION: Museum collection and reference
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Tennessee Valley Region; United States
DATES OF SAMPLING: 1933 to present
SAMPLING METHODS: Standard techniques used in taking insects, acarines, and mammals
TEMPORARY CONTAINER: Glass vials; insect pinning boxes; mammal trays
TEMPORARY STORAGE PROCEDURES: Preserved in fluid, PDB used as preservative for mounted and pinned specimens
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Hood's solution (modified) 70% alcohol
FUMIGATION: Paradichlorobenzene at less than .25 lbs./drawer or tray
PERMANENT STORAGE CONDITIONS:
CONTAINER: Insect pinning boxes and steel cabinets
TEMPERATURE: 20-27 degrees C
HUMIDITY: None
LIGHT EXPOSURE: Minimal
STORAGE MEDIA: Hood's solution
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<292>
Adrian R. Lawler
Dept. of Parasitology; Gulf Coast Research Laboratory; P.O. Box AG; Ocean Springs, MS 39564
(601) 875-2244, ext. 56

COLLECTION DESCRIPTION: Parasites of vertebrates and invertebrates and hosts
Data and Specimens
SCIENTIFIC NAME: Various parasites of vertebrates and invertebrates
PURPOSE OF COLLECTION: Research on animal parasites and their effects on hosts
SAMPLING LOCATION:
CITY: Ocean Springs, MS; Gloucester Point, VA; Oak Ridge, TN
COUNTY: Jackson, MS; Gloucester, VA; Anderson, TN
STATE: Mississippi; Virginia; Tennessee
GEOGRAPHICAL AREA: Chesapeake Bay ; Gulf of Mexico; Panama
DATES OF SAMPLING: 1954 to present
NUMBER OF SAMPLES: Several thousands
SAMPLING METHODS: Various; traps, nets, hook-and-line, guns, etc.
TEMPORARY CONTAINER: Plastic bags or buckets, etc.
TEMPORARY STORAGE PROCEDURES: Live or fresh dead to laboratory; then examined or preserved in AFA, formalin EtOH, etc.
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Formalin, AFA, EtOH, acetic acid, etc.
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass vials or bottles
TEMPERATURE: Ambient
LIGHT EXPOSURE: Varied
STORAGE MEDIA: Formaldehyde, EtOH, AFA, etc.
STORAGE LIFE OF SAMPLE: Various
AVAILABILITY OF SAMPLES AND/OR DATA: Depends on research interests of outsiders, etc. Usually send out samples only if they acknowledge my collection or if I am a junior author.
ADDITIONAL INFORMATION: Publication list on request.

COMPONENT OF INTEREST: OTHER

<293>
Michael Kudish
Dept. of Forestry;Paul Smith's College;P.O. Box 52; Paul Smiths, NY 12970
(518) 327-6330; (518) 327-6211; Home (518) 891-2894

FORMAL NAME OF COLLECTION: Paul Smith's College Herbarium
COLLECTION DESCRIPTION: Herbarium collection of bryophytes, tracheophytes, pteridophytes, and spermatophytes; insects, soil and bedrock samples
Data and Specimens
PURPOSE OF COLLECTION: Teaching, identification and study of regional vegetation
SAMPLING LOCATION:
    STATE: New York
    GEOGRAPHICAL AREA: Central Adirondack Plateau
DATES OF SAMPLING: 1971-1974; some date back to about 1960
NUMBER OF SAMPLES: Approx. 1000 species of vascular plants; 100 bryophytes
SAMPLING METHODS: Whole or portion of plant; soil sampling from soil pits
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: Pressed and dried before attachment to herbarium sheets
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Steel filing cabinets for plants; plastic vials for soils
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Most of our herbarium sheets could go out on loan to outside researchers.
ADDITIONAL INFORMATION: The herbarium is a depository for voucher specimens of plants collected in connection with vegetational-soils studies in progress. The herbarium represents the common species of vascular plants of the North-Central Adirondack Plateau, and to a slightly lesser extent, the common species of New York State. We also have a collection of shoot, fruit, and cone specimens of trees from throughout the United States used for the teaching of dendrology. Another collection of typical Adirondack bedrock specimens is available in connection with our local Northland Rock and Mineral Club. Our Ecology and Environmental Technology Department has a collection of about 100 species of aquatic (fresh-water) insects, preserved in alcohol, and collected locally around the college lands. Contact Mrs. Patricia Plath, Paul Smith's College, for more details if needed.

<294>
Stephen W. Eaton
Dept. of Biology; St. Bonaventure University; St. Bonaventure, NY 14778
(716) 375-2118

FORMAL NAME OF COLLECTION: Herbarium and Museum of Natural History
COLLECTION DESCRIPTION: Aquatic and terrestrial plants; Terrestrial vertebrates and invertebrates; Samples from rivers and freshwater oligotrophic lakes
Data and Specimens
PURPOSE OF COLLECTION: Research, teaching, and environmental monitoring
SAMPLING LOCATION:
    COUNTY: Cattaraugus
    STATE: New York; Pennsylvania
DATES OF SAMPLING: 1950 to present (some earlier); Deer antlers, 1950 - 1965
NUMBER OF SAMPLES: Several thousand
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Formaldehyde, ethyl alcohol, isopropyl, 5-10%
    FUMIGATION: Carbon tetrachloride
    DRYING: Vascular plants and bryophytes dried
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Steel herbarium and animal specimen cases
    STORAGE MEDIA: Air and formaldhyde
AVAILABILITY OF SAMPLES AND/OR DATA: Some data available, specimens may be borrowed
ADDITIONAL INFORMATION: Our snake, bird and mammal collections are particularly good for the high plateaus portion of the Allegheny Plateau. We are preparing a county flora of the bryophytes and vascular plants. We also have a bird and mammal skeleton collection with data, and a fairly extensive bird egg collection extending back into the 1800's (one Passenger Pigeon egg).

<295>
James D. Kirkwood
William F. Clapp Laboratories; Battelle-Columbus Laboratories; Washington Street; Duxbury, MA 02332
(617) 934-5682

COLLECTION DESCRIPTION: Marine plants, macroalgae, chlorophytes,rhodophytes, phaeophytes; Marine animals, teleosts, mollusks, arthropods, annelids
Data and Specimens
PURPOSE OF COLLECTION: Reference and research
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Northeast Coast; Southeast Coast; West Coast; Gulf Coast; United States; Worldwide
PRESAMPLING CONDITIONS: Preoperational data for nuclear power plants; Marine boring organisms, worldwide distribution
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Plastic; glass
    TEMPERATURE: None
    HUMIDITY: None
    LIGHT EXPOSURE: None
    STORAGE MEDIA: Neutral formalin
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Specimens represent data collected from ecological field studies for pre and post operational information for construction of nuclear and fossil fuel power plants. Specimens are classified as to site and scientific name - mostly benthic organisms. In addition, there is a museum and reference collection of marine boring organisms found worldwide. There is an herbarium collection of marine microalgae from a section of Long Island Sound.

<296>
John G. New
Dept. of Biology;State University College; Oneonta, NY 13820
(607) 431-3703

COLLECTION DESCRIPTION: Fungi and tracheophytes; Birds, mammals, fish, molluscs and insects; Freshwater from lakes and rivers or streams
Data and Specimens
PURPOSE OF COLLECTION: Museum, teaching and research collections; chemical analysis of water
SAMPLING LOCATION:
    STATE: New York
    GEOGRAPHICAL AREA: Central New York

<297>

COMPONENT OF INTEREST: OTHER

<297>
Hilbert P. Siegler; Joseph F. Wiley
New Hampshire Fish & Game Dept.; Game Management & Research Division; 34 Bridge St.; Concord, NH 03301
(603) 271-2462

COLLECTION DESCRIPTION: Aquatic seed collection; grouse wings & tails; deer jaw bone collection
Data and Specimens
PURPOSE OF COLLECTION: Seed collection for waterfowl food habits studies; Grouse wings for grouse research; Deer jaws for aging deer
SAMPLING LOCATION:
STATE: New Hampshire
DATES OF SAMPLING: Aquatic seeds-1946-1950; grouse wings-1958; deer jaws-1954
NUMBER OF SAMPLES: Approx. 40-50 vials of seeds
TEMPORARY CONTAINER: Seeds in vials, wings and jaws in drawers
PERMANENT STORAGE PREPARATION: Intact Storage
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<298>
Walter A. Jones
Environmental Sciences; Somerset Environmental Education Center; Box 837; Somerville, NJ 08876
(201) 766-2489

COLLECTION DESCRIPTION: Algae, lichens, tracheophytes, pteridophytes, and spermatophytes; aquatic and terrestrial vertebrates; soils; bottom sediments from ponds and rivers; freshwater samples
Data and Specimens
PURPOSE OF COLLECTION: To obtain ecological information for educational programs and environmental problems, land and wildlife management, museum collections.
SAMPLING LOCATION:
CITY: Basking Ridge
COUNTY: Somerset
STATE: New Jersey
PRESAMPLING CONDITIONS: Abandoned farm; part of glacial lake-Passaic Bottom, and now a portion of the Great Swamp Basin
DATES OF SAMPLING: 1969 to present
SAMPLING METHODS: Random-sampling, quadrants, line transects
TEMPORARY CONTAINER: Glass-formalin for fish, immediate freezing for mammals and birds, plant press for terrestrial plants, immediate slide mounting for algae
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: Mammals, birds
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass jars
HUMIDITY: Standard dehumidifier in closed room
LIGHT EXPOSURE: No natural light
STORAGE MEDIA: Plants pressed and mounted on herbarium paper. Mammals, birds as study skins with data cards. Fish, reptiles, amphibians in formalin.
STORAGE LIFE OF SAMPLE: Unknown
ADDITIONAL INFORMATION: We are in the process of collecting data on the plant life of our 400 acre center in Basking Ridge, both terrestrial and aquatic. The first step has included inventory of species by random sampling using quadrats and line transects. We have begun a specimen collection of freshwater algae, and are preparing to collect other plant specimens. We are also collecting animals (vertebrates) including birds, fish and mammals, with the birds & mammals prepared as study skins while the fish are formalin preserved in glass museum jars. We are also doing data collection on all streams and ponds in the tract, including dissolved oxygen, nitrates, nitrites, phosphates, CO(2), pH, Coliform , and occasionally chlorides and others. This is done monthly, often more frequently, at 9 different sampling stations.

<299>
Donald Mraz
Center for Great Lakes Studies; University of Wisconsin, Milwaukee; Milwaukee, WI 53201
(414) 963-4196

COLLECTION DESCRIPTION: Lake algae, animals, bottom sediments, and oligotrophic water samples
Data and Specimens
PURPOSE OF COLLECTION: Various research projects
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Lake Michigan
DATES OF SAMPLING: 1966 to present
SAMPLING METHODS: Standard limnological sampling devices
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formalin usually; UT or Mohl's solution for algae
PERMANENT STORAGE CONDITIONS:
CONTAINER: Preserved in glass bottles or on slides
STORAGE MEDIA: Formaldehyde
AVAILABILITY OF SAMPLES AND/OR DATA: Available upon individual request.

<300>
Galen Eiben
Dept. of Biology; Wartburg College; Waverly, IA 50677
(319) 352-1200, ext. 391

COLLECTION DESCRIPTION: Aquatic and terrestrial spermatophytes, pteridophytes, and algae; fish, amphibians, reptiles, and insects
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research-systematics
SAMPLING LOCATION:
STATE: Iowa
DATES OF SAMPLING: Late 1800's to present
NUMBER OF SAMPLES: Herbarium-several hundred, insects-several hundred, vertebrates 200
SAMPLING METHODS: Sporadic field trips
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Vertebrates in formaldehyde
DRYING: Herbarium, insects dried
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal herbarium cabinets, wood insect cabinets; rest in jars on wood shelving
TEMPERATURE: Building air conditioned
LIGHT EXPOSURE: None except for use
AVAILABILITY OF SAMPLES AND/OR DATA: Generally available

COMPONENT OF INTEREST: OTHER

<301>
E.F. Stoermer
Great Lakes Research Division;1060 North
University Bldg.;University of Michigan;Ann
Arbor, MI 48104
(313) 764-2420

COLLECTION DESCRIPTION: Aquatic algae and animals; freshwater lake samples
Data and Specimens
PURPOSE OF COLLECTION: Reference collections; voucher specimens
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Great Lakes
DATES OF SAMPLING: 1964 to present
NUMBER OF SAMPLES: Approx 3000
TEMPORARY CONTAINER: Glass
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Formalin; ethanol
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    TEMPERATURE: None
    HUMIDITY: None
    STORAGE MEDIA: Formalin
STORAGE LIFE OF SAMPLE: Indefinite

<302>
Norman Kutscha; Malcolm Coulter
School of Forest Resources; University of Maine;
Orono, ME 04473
(207) 581-7312

FORMAL NAME OF COLLECTION: The Gregory Baker Collection of Wood
COLLECTION DESCRIPTION: Bird and mammal wildlife specimens; Wood samples
Data and Specimens
PURPOSE OF COLLECTION: Teaching
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: Years

<303>
Larry L. Olmsted
Duke Environmental Lab; Rt. 3 Box 90;
Huntersville, NC 28078
(704) 875-1381

COLLECTION DESCRIPTION: Aquatic algae; fish, benthic organisms, and plankton; bottom sediments, eutrophic and oligotrophic lake water; river water samples; air particulate samples
Data and Specimens
PURPOSE OF COLLECTION: Nuclear plant environmental studies
SAMPLING LOCATION:
    STATE: North Carolina; South Carolina
DATES OF SAMPLING: July 1973 to present
SAMPLING METHODS: Seines, nets, electrofishing, rotenone, dredges, pumps, artificial substrates, etc.
TEMPORARY STORAGE PROCEDURES: Zooplankton and some benthic organisms are permanent mounts, fish in formalin or alcohol
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Room Temperature
    HUMIDITY: None
    LIGHT EXPOSURE: Variable
    STORAGE MEDIA: Formalin; alcohol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Some phytoplankton photographs

<304>
Louis F. Wilson
USDA Forest Service; Michigan State University;
East Lansing, MI 48823
(517) 355-0090

COLLECTION DESCRIPTION: Tracheophytes and pteridophytes; forest insects
Specimens Only
PURPOSE OF COLLECTION: Identification of local forest insects on pines; alternate hosts and related plants of spittlebugs
SAMPLING LOCATION:
    STATE: Michigan
DATES OF SAMPLING: 1962 to present
AVAILABILITY OF SAMPLES AND/OR DATA: Few specimens of insects

<305>
Thomas H. Rennie
Dept. of Biology;Augustana College;Rock Island,
IL 61201
(309) 794-7248

FORMAL NAME OF COLLECTION: Dept. of Biology; Texas A&M University; College Station, TX 77840
COLLECTION DESCRIPTION: Marine and aquatic algae; marine and aquatic invertebrates: plankton, primarily crustacea
Data and Specimens
PURPOSE OF COLLECTION: Population ecology and taxonomy
SAMPLING LOCATION:
    CITY: Port Lavaca
    STATE: Texas
    GEOGRAPHICAL AREA: Cox Bay; Keller Bay; Matagorda Bay system
DATES OF SAMPLING: Monthly, Nov. 1969 to Sept. 1972
NUMBER OF SAMPLES: Approx. 470
SAMPLING METHODS: Clorre Bumpus plankton sampler (12 cm. diam.),No. 20 net, 2 minute multiple tows
TEMPORARY CONTAINER: 1 qt. jars
TEMPORARY STORAGE PROCEDURES: Preserved in F.A.A. and seawater
DELAY BEFORE PERMANENT STORAGE: 3-5 years
PERMANENT STORAGE PREPARATION: Fractionated
PERMANENT STORAGE CONDITIONS:
    STORAGE MEDIA: FAA Solution, unbuffered
AVAILABILITY OF SAMPLES AND/OR DATA: Information available; samples possible

<306>
V.R. Ferris
Dept. of Entomology; Purdue University;Lafayette,
IN 47907
(317) 749-2458

COLLECTION DESCRIPTION: Preserved biological materials of general nature, including fungi, aquatic and terrestrial vertebrates and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Teaching and systematic or ecological research
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide
NUMBER OF SAMPLES: Thousands

<307>

COMPONENT OF INTEREST: OTHER

<307>
William W. Kirby Smith
Museum Curator; Duke University; Marine
Laboratory; Beaufort, NC 28516
(919) 728-2111

COLLECTION DESCRIPTION: Marine algae; Fish and marine invertebrates; Coastal seawater samples
Data and Specimens
PURPOSE OF COLLECTION: Teaching and Research
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Southeastern United States
DATES OF SAMPLING: 1964 to present
NUMBER OF SAMPLES: 3000
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Formalin, alcohol, concentration: 4% formaldehyde, 70% alcohol
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass jars
    TEMPERATURE: 21-27 degrees C
    LIGHT EXPOSURE: Daylight and fluorescent
    STORAGE MEDIA: Formaldehyde, 70% alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: On loan

<308>
Daniel L. Stoneburner
Haskell Laboratory; Elkon Road; Newark, DE 19711
(302) 366-4977

COLLECTION DESCRIPTION: Aquatic insects and diatoms; algae
Data and Specimens
PURPOSE OF COLLECTION: Museum collection, research standards
SAMPLING LOCATION:
    STATE: Iowa; Alabama; California; Alaska; Texas; Louisiana; Tennessee; Pennsylvania
PRESAMPLING CONDITIONS: Collections were obtained for industrial and domestic waste impact and assessment studies
DATES OF SAMPLING: 1971-1974
NUMBER OF SAMPLES: 5 sets of composited subsamples
SAMPLING METHODS: Surber samples in riffles; dredges in pools and runs (macroinvertebrates); scrapings substrates from same habitats (diatoms)
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Denatured ETOH
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    LIGHT EXPOSURE: Dark
    STORAGE MEDIA: 70% ETOH
AVAILABILITY OF SAMPLES AND/OR DATA: Upon individual request
ADDITIONAL INFORMATION: These aquatic insect and diatom collections were obtained to assess the impact of industrial and domestic wastes on aquatic systems. The data is in tabular form, the samples consist of composited subsamples with identification to family, class, and genus. The total collection consists of organisms from 15 studies, location is the United States.

<309>
Albert M. Bargeski
NOAA, Dept. of Commerce; Oceanic Service Branch; National Oceanographic Data Center; Washington, DC 20235
(202) 343-8921

COLLECTION DESCRIPTION: Oceanographic station data; mechanical (MBT) and expendable (XBT) bathythermograph data; biological data and literature
Data Collection Only
PURPOSE OF COLLECTION: National repository for oceanographic data
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: Late 19th century to present
NUMBER OF SAMPLES: 518,949 Oceanographic Stations; 713,677 MBT's; 102,986 XBT's; 3,375,000 Surface current observations; 13,000 Biological Stations; 18,591 Biological papers stored for retrieval
AVAILABILITY OF SAMPLES AND/OR DATA: Available to anyone
PUBLICATIONS: User's Guide to NODC's Data Services, Key to Oceanographic Records Documentation No. 1. National Oceanic and Atmospheric Administration, Environmental Data Service, February 1974
ADDITIONAL INFORMATION: Digitized data

<310>
Donald C. Gasper
W. Va. Dept. Natural Resources; 4 Ritchie; Buckhannon, WV 26201
(304) 472-3266

COLLECTION DESCRIPTION: Water samples; Aquatic and terrestrial vertebrates and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Museum collection, traveling display, inventory of W. Virginia water (chemical, biological, and physical)
SAMPLING LOCATION:
    STATE: West Virginia
PRESAMPLING CONDITIONS: Some areas are acid mine polluted. Beaver were trapped out about 1900 but returned in the late 1930's. Logging in 1900 and watershed deterioration continues today
DATES OF SAMPLING: 1940 to present
NUMBER OF SAMPLES: Fish - 150; Birds - 5; Aquatic insect stages - 30; data on 500 waters
TEMPORARY CONTAINER: Glass
TEMPORARY STORAGE PROCEDURES: 10% formalin
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Formaldehyde, 40% diluted to 10%
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    TEMPERATURE: 21.1 degrees C
    HUMIDITY: Air conditioned
    LIGHT EXPOSURE: Shaded from direct sunlight
    STORAGE MEDIA: Formaldehyde
STORAGE LIFE OF SAMPLE: Some 15 yrs so far
AVAILABILITY OF SAMPLES AND/OR DATA: Available, could be lent, some given away
ADDITIONAL INFORMATION: This is a small working collection resulting from water inventory work and the death of zoo animals (approx. 100 vertebrates) which are preserved in formaldehyde or mounted for display.

COMPONENT OF INTEREST: OTHER

<311>
Frederick R. Swan, Jr.
Dept. of Biology;West Liberty State College;West Liberty, WV 26074
(304) 336-9091

COLLECTION DESCRIPTION: Terrestrial mammals and plant specimens, including embryophytes, pteridophytes, and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Teaching
SAMPLING LOCATION:
COUNTY: Belmont, Marshall, OH; Brooke, Hancock, WV; Washington, PA
STATE: Ohio; West Virginia; Pennsylvania
GEOGRAPHICAL AREA: Upper Ohio River Valley
DATES OF SAMPLING: 1967 to present
SAMPLING METHODS: Snap traps for small mammals; plant specimens were mostly pressed and dried; some plants were frozen. Sampling sites included mostly abandoned farmlands.
TEMPORARY CONTAINER: Lane scientific skin and herbarium cabinets
TEMPORARY STORAGE PROCEDURES: Small mammals were skinned and prepared according to standard procelures. Skins and external parasites were saved. Plants were pressed and dried. Some plants are frozen at zero degrees F.
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -18 some plants
DRYING: Most plants and all small mammal skins.
AVAILABILITY OF SAMPLES AND/OR DATA: Availalbe on request
ADDITIONAL INFORMATION: As of August 1974, 40 permanent vegetational plots exist on the college's land southeast of the campus. Twenty plots are located in young Prunus-Robina woods and twenty in an abandoned field.

<312>
Edward S. Bender
Aquatic Ecology Unit; Ecological Research Section; Biomedical Laboratory; Edgewood Arsenal, MD 21010
(301) 671-2586

COLLECTION DESCRIPTION: Benthic macro invertebrates; aquatic mammals
Data and Specimens
PURPOSE OF COLLECTION: Museum collection, research standards
SAMPLING LOCATION:
COUNTY: Hanford Co.; Jefferson Co.
STATE: Maryland; Arkansas; Kansas; Indiana
GEOGRAPHICAL AREA: Edgewood Arsenal; Pine Bluff Arsenal; Southern AAP; Newport AAP
PRESAMPLING CONDITIONS: Some areas are pristine and others polluted at all sites.
DATES OF SAMPLING: 1971 to present
SAMPLING METHODS: Various standard methods
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: 70% isopropanol
STORAGE LIFE OF SAMPLE: Indefinitely
AVAILABILITY OF SAMPLES AND/OR DATA: All data or specimens are potentially available

<313>
Philip Hartman
The Johns Hopkins University; Mergenthaler Lab. for Biology; Baltimore, MD
(301) 366-3300, ext. 522, 516

COLLECTION DESCRIPTION: Salmonella typhimurium histidine-requiring mutants
Data and Specimens
SCIENTIFIC NAME: Salmonella typhimurium
PURPOSE OF COLLECTION: Research on thioxanthenones and benzothiopyranoindazoles
PRESAMPLING CONDITIONS: Strain LT-2 (Zinder and Lederberg 1952 J. Bacteriol. 64:679-699)
NUMBER OF SAMPLES: Single parental strain, thousands of sub-strains
TEMPORARY STORAGE PROCEDURES: Soft nutrient agar without salt or frozen in dimethylsulfoxide
DELAY BEFORE PERMANENT STORAGE: Varies with strain
STORAGE LIFE OF SAMPLE: Greater than 10 years
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Most useful representative strains are available from Dr. Bruce N. Ames, Department of Biochemistry, University of California, Berkeley, California 94720. Dr. Ames should be contacted for the strains of PRIMARY USE. Numerous other special strains are available from our lab upon request.

<314>
Leonard N. Zimmerman
Dept. of Microbiology; 5101 Frear Lab.; Pennsylvania State University; University Park, PA 16802
(814) 865-3867

COLLECTION DESCRIPTION: Stock culture collection of bacteria and fungi
Specimens Only
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Consists of cultures which have been selected over the years as representative of their species characteristics. Species list available.

<315>
Robert L. Wilbur
Dept. of Botany; Duke University; Durham, NC 27706
(919) 684-3056

COLLECTION DESCRIPTION: Plants of all kinds except fungi.
Data and Specimens
NUMBER OF SAMPLES: Approx. 450,000 specimens
AVAILABILITY OF SAMPLES AND/OR DATA: Visits and loans

<316>
James Mears
Dept. of Botany;Academy of Natural Sciences; 19th and the Parkway;Philadelphia, PA 19103
(215) 567-3700 ext. 317

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial algae, fungi, lichens, bryophytes, tracheophytes, pteridophytes, and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Taxonomic and ecological research
SAMPLING LOCATION:
STATE: Pennsylvania; New Jersey; Maryland; Delaware
GEOGRAPHICAL AREA: Worldwide; North America
DATES OF SAMPLING: 1760 to present
NUMBER OF SAMPLES: Approx. 1.5 million specimens
TEMPORARY STORAGE PROCEDURES: Pressed,dried, and stored in metal cases
DELAY BEFORE PERMANENT STORAGE: 1 1/2 years
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: In plant press
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Visitors are welcome and specimens will be sent on loan to institutions engaged in taxonomic or ecological research.

COMPONENT OF INTEREST: OTHER

<317>
Wm. C. Strickland
College of Arts and Sciences; Appalachian State University; Boone, NC 28607
(704) 262-3076

COLLECTION DESCRIPTION: Terrestrial plants, lichens, embryophytes, bryophytes, tracheophytes, pteridophytes, spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
NUMBER OF SAMPLES: 8,000
SAMPLING METHODS: Random collecting
FUMIGATION: Paradichlorobenzene
PERMANENT STORAGE CONDITIONS:
CONTAINER: Herbaria cases
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<318>
William L. Stern
Dept. of Botany; University of Maryland; College Park, MD 20742
(301) 454-3812

COLLECTION DESCRIPTION: Plant parts and entire plants of terrestrial lichens, bryophytes, tracheophytes, pteridophytes, and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Reference collection of vascular plants of Maryland
SAMPLING LOCATION:
STATE: Maryland
GEOGRAPHICAL AREA: United States
PRESAMPLING CONDITIONS: Highly variable. Many specimens have habital notes; many merely give location by county or map features
DATES OF SAMPLING: 1900 to date
NUMBER OF SAMPLES: 20,000 - 30,000
SAMPLING METHODS: Plant parts or entire plants
TEMPORARY CONTAINER: In newspaper folders, in boxes
TEMPORARY STORAGE PROCEDURES: Fumigated in cases with paradichlorobenzene or mothballs. Some old specimens have gathered dust
DELAY BEFORE PERMANENT STORAGE: Highly variable; often several years
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Temperatures up to 65 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Steel or wood herbarium cases
TEMPERATURE: None
HUMIDITY: None
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Probably 200 - 300 years
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens can be loaned. Data frequently mailed
ADDITIONAL INFORMATION: We have a considerable quantity of unmounted specimens, some 50 years old or more, that could be supplied for analysis. Many are grasses. The collections were made before nuclear pollution. Some tropical and western material now being accessed.

<319>
Morris Levy
Dept. of Biological Science; Herbarium;Purdue University;W. Lafayette, IN 47907
(317) 493-9227

COLLECTION DESCRIPTION: Dried plant collection, including terrestrial bryophytes, tracheophytes, pteridophytes, and spermatophytes
Specimens Only
PURPOSE OF COLLECTION: Reference for plant identification; systematic work
SAMPLING LOCATION:
STATE: Indiana
GEOGRAPHICAL AREA: Eastern United States
DATES OF SAMPLING: 1910 to present
NUMBER OF SAMPLES: Approx. 56,000
RESULTS OF ANALYSES: Dried plant material
SAMPLING METHODS: Collected in field
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Monted on Sheets
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal Case
STORAGE MEDIA: Paradichlorobenzene insecticide
STORAGE LIFE OF SAMPLE: 50 years
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens to be loaned and exchanges with other herbaria.

<320>
Marion T. Jackson
Dept. of Life Sciences;Indiana State University;Terre Haute, IN 47809
(812) 232-6311, ext. 2489

COLLECTION DESCRIPTION: General plant collection including terrestrial fungi, tracheophytes, pterdiophytes, and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
STATE: Indiana
GEOGRAPHICAL AREA: United States
DATES OF SAMPLING: Late 1920's to present
NUMBER OF SAMPLES: Approx. 4000
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Paradichlorobenzene
PERMANENT STORAGE CONDITIONS:
CONTAINER: Lane herbarium cabinets
AVAILABILITY OF SAMPLES AND/OR DATA: Available for visit or loan

<321>
Peter J. Salamun
Dept. of Botany; University of Wisconsin-Milwaukee; Milwaukee, WI 53201
(414) 963-4298

COLLECTION DESCRIPTION: Eutrophic and dystrophic lake water; river water; aquatic and terrestrial algae, fungi, bryophytes, tracheophytes, pteridophytes, and spermatophytes
Specimens Only
PURPOSE OF COLLECTION: Research in plant taxonomy, ecology and phytogeography: Public service-identification.
SAMPLING LOCATION:
STATE: Wisconsin
GEOGRAPHICAL AREA: North America; Europe; South America
DATES OF SAMPLING: 1956 to present, some specimens date back to 1870-1880
NUMBER OF SAMPLES: 3,500 Algae; 10,000 Fungi; 2000 Bryophytes; 50,000 Tracheophytes.
SAMPLING METHODS: Entire plant (herbs) or portion of branch (trees and shrubs) with flowers and/or fruits.
TEMPORARY CONTAINER: In cardboard boxes with paredichlorobenzene
DELAY BEFORE PERMANENT STORAGE: Less than one year.
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Paradichlorbenzene
DRYING: Yes
PERMANENT STORAGE CONDITIONS:
CONTAINER: Steel, insect-proof cabinets
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Loans under usual regulations to responsible organizations or individuals
ADDITIONAL INFORMATION: Some cytological and chromatographic information avaialble

COMPONENT OF INTEREST: OTHER

<322>
Dorothy McMeekin
Dept. of Natural Science; Michigan State University; 1055 Marigold St.; E. Lansing, MI 48823
(517) 353-7036

COLLECTION DESCRIPTION: Lichens, fungi and slime molds
Specimens Only
PURPOSE OF COLLECTION: Teaching
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
DATES OF SAMPLING: 1952 - 1974
NUMBER OF SAMPLES: Approx 200
AVAILABILITY OF SAMPLES AND/OR DATA: I do not wish to mail these; anyone can examine the materials here
ADDITIONAL INFORMATION: Species list with source and date available

<323>
Ralph E. Good
Dept. of Biology; Rutgers University; Camden, NJ 08102
(609) 964-1766

FORMAL NAME OF COLLECTION: College of South Jersey Herbarium
COLLECTION DESCRIPTION: Aquatic and terrestrial plants, pteridophytes and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research (Voucher specimens) Plants of South Jersey
SAMPLING LOCATION:
STATE: New Jersey
DATES OF SAMPLING: 1870 to present
NUMBER OF SAMPLES: 5,000
SAMPLING METHODS: Standard plant collection
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal cases
AVAILABILITY OF SAMPLES AND/OR DATA: Exchange basis

<324>
Ronald L. Raschke
Dept. of Biology;Environmental Protection Agency, Region IV;Bailey Rd.;Athens, GA 30601
(404) 546-2294

FORMAL NAME OF COLLECTION: Southeast U.S. Plant Collection
COLLECTION DESCRIPTION: Plant collection; water samples from freshwater lakes, rivers, brackish water, and seawater
Data and Specimens
PURPOSE OF COLLECTION: Reference collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Southeastern United States
DATES OF SAMPLING: 1970 - 1974
TEMPORARY CONTAINER: Glass vials, herbarium sheets
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass vials or herbarium sheets
STORAGE MEDIA: 6-3-1, formalin (4%)
AVAILABILITY OF SAMPLES AND/OR DATA: Available at discretion of R.L. Raschlke

<325>
E.E. Hartwig; R.R. Bridge
Delta Branch Exp. Stn.; Stoneville, MS 38776
(601) 686-7281

COLLECTION DESCRIPTION: Soybean and cotton seeds
Specimens Only
SCIENTIFIC NAME: Glycine max and G.soja, Gossypium hirsutum
PURPOSE OF COLLECTION: Germplasm stock for plant breeding programs
NUMBER OF SAMPLES: Variable on soybeans; cotton, 1250
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Soybeans - Wax - paper bag; Cotton - glass jars
TEMPERATURE: Soybeans 10-12.2 degrees C; cotton 4.4-7.2 degrees C
HUMIDITY: Soybeans < 55% RH; Cotton < 65% RH
LIGHT EXPOSURE: Soybeans, dark; Cotton, dark
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Soybeans 4-5 years; cotton 10 years
AVAILABILITY OF SAMPLES AND/OR DATA: Available to other state and federal researchers
PUBLICATIONS: The Regional Collection of Upland Cotton. The Delta Branch Experiment Station, U.S.D.A., Regional Research Project S-77.
ADDITIONAL INFORMATION: Contact: E.E. Hartwig Re. Soybeans; R.R. Bridge Re. Cotton

<326>
Paul K. Soderholm
Subtropical Horticulture Res. Station; 13601 Old Cutler Road; Miami, FL 33158
(305) 235-2533

COLLECTION DESCRIPTION: Collection of tropical and subtropical living plants
Data and Specimens
PURPOSE OF COLLECTION: Evaluation as crops for warm climates of the U.S. and germplasm collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1923 to present
NUMBER OF SAMPLES: Over 3,000
AVAILABILITY OF SAMPLES AND/OR DATA: Limited quantities available

<327>
Janice M. Glime
Dept. of Biology; Michigan Technological University; Houghton, MI 49931
(906) 487-2546

COLLECTION DESCRIPTION: Plants, algae and bryophytes; aquatic invertebrates; freshwater lake samples
Data and Specimens
SCIENTIFIC NAME: Fontinalis spp., especially Fontinalis dalecarlica
COMMON NAME: Brook moss
PURPOSE OF COLLECTION: Reference collection for research
SAMPLING LOCATION:
STATE: New Mexico
GEOGRAPHICAL AREA: Eastern United States
DATES OF SAMPLING: 1965 to present
SAMPLING METHODS: Handgrab; random, and searching collections
TEMPORARY CONTAINER: Some stored 2-3 yrs. in 70% ethanol then air dried in paper packets
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Air dried
PERMANENT STORAGE CONDITIONS:
CONTAINER: Paper packets
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available if return guaranteed

<328>

COMPONENT OF INTEREST: OTHER

<328>
Lothian A. Ager
Lake Okeechobee Biological Station; Florida Game & Fresh Water Fish Comm.; 802 SW 3rd Ave.;
Okeechobee, FL 33472
(813) 763-4042; (813) 763-4661

FORMAL NAME OF COLLECTION: Herbarium of Lake Okeechobee Plants
COLLECTION DESCRIPTION: Aquatic and terrestrial plants
Specimens Only
PURPOSE OF COLLECTION: Herbarium
SAMPLING LOCATION:
CITY: Okeechobee
COUNTY: Okeechobee; Martin; Glades; Palm Beach; Hendry
STATE: Florida
DATES OF SAMPLING: 1964-1972
NUMBER OF SAMPLES: Approx. 175
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Pressed
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: Ambient
HUMIDITY: None
LIGHT EXPOSURE: None
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<329>
Haven C. Sweet
Dept. of Biological Sciences; Florida Tech. Univ.; P.O.Box 25000; Orlando, FL 32816

FORMAL NAME OF COLLECTION: Merritt's Island Herbarium Collection
COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial plants
Data and Specimens
PURPOSE OF COLLECTION: Comprehensive floristic list of Merritt's Island and Cape Canaveral for NASA, museum collection
SAMPLING LOCATION:
CITY: Kennedy Space Center
COUNTY: Brevard
STATE: Florida
GEOGRAPHICAL AREA: Cape Canaveral; Merritt's Island
PRESAMPLING CONDITIONS: Area began development and continued to the 1950's when NASA acquired the area. Merritt Island National Wildlife Refuge eventually setup
DATES OF SAMPLING: 1972 to present
NUMBER OF SAMPLES: Approx. 4,000, about 800 species
RESULTS OF ANALYSES: Range data, habitat preference, presence or absence in a particular habitat
SAMPLING METHODS: Extensive collecting and pressing of all species encountered in various communities
TEMPORARY CONTAINER: Layne herbarium cases
TEMPORARY STORAGE PROCEDURES: Plants pressed in newspaper, identified and stored in standard herbarium cases with paradichlorobenzene
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Paradichlorobenzene after poisoning
DRYING: Dry heat for 72 hrs. in plant drier
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Dark
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Data computerized, can be mailed. Specimens available to visiting botanists and can be loaned to other herbaria.
ADDITIONAL INFORMATION: Plants were collected for 3 years; data taken on location, habitat, and flowering time and occurrence in Florida. Data was stored on SUS computer system using a modified WLHE program. Complete floristic data acquired in preparation for a short term (3 years) monitoring program for NASA in conjunction with the Shuttlecraft program.

<330>
William H. Martin
Dept. of Natural Sciences;Eastern Kentucky University;Richmond, KY 40475
(606) 622-3122

COLLECTION DESCRIPTION: Terrestrial tracheophytes, pteridophytes, and spermatophytes
Specimens Only
PURPOSE OF COLLECTION: Official voucher specimen of higher plants of Lilley Cornett Woods, Letcher Co., Ky.
SAMPLING LOCATION:
CITY: Skyline
COUNTY: Letcher
STATE: Kentucky
GEOGRAPHICAL AREA: Lilley Cornett Woods
PRESAMPLING CONDITIONS: Old growth deciduous forest of rugged, dissected portion of Cumberland Plateau in Ky.
DATES OF SAMPLING: 1974 (March-November)
NUMBER OF SAMPLES: Several hundred
SAMPLING METHODS: Weekly and biweekly samples across plant communities of Woods. No standardized area used
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Standard herbarium drying of higher plants
PERMANENT STORAGE CONDITIONS:
CONTAINER: Herbarium cases
AVAILABILITY OF SAMPLES AND/OR DATA: At Eastern Ky. Univ. and available on loan

<331>
Baki Kasapligil
Dept. of Biology;Mills College;Seminary at MacArthur Blvd; Oakland, CA 94613
(415) 632-2700, ext. 304

COLLECTION DESCRIPTION: Standard herbarium plants; tissue mounted on slides; algae, fungi, lichens, embryophytes, bryophytes, tracheophytes, pteridophytes, and spermatophytes
Data and Specimens
SCIENTIFIC NAME: Genus Corylus
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
CITY: Oakland; Berkeley; San Francisco; Stanford
COUNTY: Contra Costa; Alameda; San Francisco; Marine; San Matel
STATE: California
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1920 to present
NUMBER OF SAMPLES: Approx. 6000 sheets
SAMPLING METHODS: Field trips
TEMPORARY CONTAINER: Cardboard boxes
DELAY BEFORE PERMANENT STORAGE: Months
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Paradichlorobenzene in bags
FUMIGATION: CS(2) or CCl(4)
DRYING: Dried in herbarium presses and heat sterilized
PERMANENT STORAGE CONDITIONS:
CONTAINER: Wooden cases for herbarium specimens; glass or polyethelene bottles for pickled specimens
TEMPERATURE: 20-21 degrees C
STORAGE MEDIA: Pickled materials of plants kept in 3% formaldehyde, alcohol or in isopropanol
AVAILABILITY OF SAMPLES AND/OR DATA: No staff for handling loans, available for study by appointments only
ADDITIONAL INFORMATION: Many of the woody plants of California are fairly well represtnted on Mills College Campus as well as in William Joseph McInnes Memorial Botanic Garden of Mills College. The latter is used primarily for students. Experiments, i.e. our out-door laboratory for plant sciences.

<332>
Bayard Brattstrom
Department of Biology;California State University; Fullerton, CA 92634
(714) 870-3614; (714) 529-7497 (Home)

FORMAL NAME OF COLLECTION: McFadden Herbarium and Vertebrate Zoology Collections
COLLECTION DESCRIPTION: Complete herbarium and vertebrate zoology collection
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
STATE: California
GEOGRAPHICAL AREA: Southwest United States; Mexico
NUMBER OF SAMPLES: Approx. 8000 plants; 10, 000 lichens and mosses; vertebrates approx. 1000
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass and dry mounts
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<333>
James S. Henrickson
Dept. of Biology;California State University;5151 State University Dr.;Los Angeles, CA 90032
(213) 224-3258

COLLECTION DESCRIPTION: Flowering plants, algae, conifers, and ferns; birds, mammals, mayfies, and intertidal invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Southwest United States; Mexico
DATES OF SAMPLING: 1950 to present
NUMBER OF SAMPLES: Plants 15,000
RESULTS OF ANALYSES: Whole specimen
SAMPLING METHODS: Representative of habitats in California
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Napthalene; paradichlorobenzene
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal Lane museum and herbarium cabinets
LIGHT EXPOSURE: None
AVAILABILITY OF SAMPLES AND/OR DATA: Standard loans

<334>
Stephen L. Clark
Dept. of Botany; Weber State College; 3750 Harrison Blvd.; Ogden, UT 84403
(801) 399-5941, ext. 517

COLLECTION DESCRIPTION: Herbarium collection of area terrestrial and aquatic plants
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
STATE: Utah
GEOGRAPHICAL AREA: Western United States
DATES OF SAMPLING: Few 1800 to present; most 1964 to present
NUMBER OF SAMPLES: 14,000
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Dried
PERMANENT STORAGE CONDITIONS:
CONTAINER: Herbarium cases
TEMPERATURE: Yes
HUMIDITY: None
STORAGE MEDIA: Dry air
STORAGE LIFE OF SAMPLE: 100 years
AVAILABILITY OF SAMPLES AND/OR DATA: Loans up to 3 months

<335>
Tom Lockwood
Herbarium; Dept. of Botany; University of Illinois; 297 Morrill Hall; Urbana, IL 61801
(217) 333-9357

COLLECTION DESCRIPTION: Complete dried plant herbarium including aquatic, marine, and terrestrial algae, fungi, lichens, embryophytes, bryophytes, tracheophytes, pteridophytes, and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1800 to present
NUMBER OF SAMPLES: Approx. 450,000
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Yes
AVAILABILITY OF SAMPLES AND/OR DATA: Loans are available to recognized herbaria and other scientific institutions

<336>

COMPONENT OF INTEREST: OTHER

<336>
J.H. Grosklags
Dept. of Biological Sciences; Northern Illinois University; Dekalb, IL 60115
(815) 753-0433

COLLECTION DESCRIPTION: Mycology collection, fungi and lichens
Data and Specimens
PURPOSE OF COLLECTION: Research, reference and teaching
SAMPLING LOCATION:
STATE: Wisconsin; Illinois
GEOGRAPHICAL AREA: United States
DATES OF SAMPLING: 1953 to present
NUMBER OF SAMPLES: 700 living, 400 dried or preserved by other means
RESULTS OF ANALYSES: Pure cultures of fungi or dried or pickled specimens or parasitized organisms
SAMPLING METHODS: Soil cores, simple collecting, etc.
PERMANENT STORAGE PREPARATION: Intact Storage
LYPHYLIZATION: Yes
DRYING: Yes
OTHER: Agar tubes of living specimens
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass test tubes, jars, boxes
TEMPERATURE: Some at 4 degrees C, others at room temperature
HUMIDITY: None
LIGHT EXPOSURE: None during storage
AVAILABILITY OF SAMPLES AND/OR DATA: Yes, depends on quantity of materials in possession

<337>
Paul B. Kannowski
Institute Ecological Studies; University of North Dakota; Grand Forks, ND 58201
(701) 777-2851

COLLECTION DESCRIPTION: Terrestrial plants and insects
Data and Specimens
PURPOSE OF COLLECTION: Taxonomic and zoogeographic research
SAMPLING LOCATION:
STATE: North Dakota; Michigan
GEOGRAPHICAL AREA: Adjacent states; Southwestern United States; Panama Canal Zone
DATES OF SAMPLING: 1925 to present; mostly since 1950
NUMBER OF SAMPLES: Approx. 3,000
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass with neoprene stoppers
TEMPERATURE: Ambient
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE MEDIA: 85% ethylalcohol
STORAGE LIFE OF SAMPLE: Variable
AVAILABILITY OF SAMPLES AND/OR DATA: Available to qualified researchers

<338>
Theodore M. Barkley
Herbarium; Dept. of Biology;; Kansas State University; Manhattan, KS 66506
(913) 532-6619

COLLECTION DESCRIPTION: Standard aquatic and terrestrial plant herbarium, including fungi, lichens, embryophytes, bryophytes, tracheophytes, pteriodphytes, and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: North America; Great Plains
NUMBER OF SAMPLES: Approx. 170,000 specimens
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Dowfume 75 (1 part carbon disulfide: 3 pts. carbon tetrachloride): 1 capful per herbarium case
PERMANENT STORAGE CONDITIONS:
CONTAINER: Steel herbarium cabinets
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens gladly loaned to institutions
ADDITIONAL INFORMATION: The herbarium of Kansas State U. is a typical Land-Grant College Herbarium. Our call-letters are KSC in Lanjouw & Stafleu, Index Herbarium

<339>
Louis N. Bass
National Seed Storage Laboratory; Western Region; Agricultural Research Service; U.S. Dept. of Agriculture; Colorado State University; Fort Collins, CO 80521
(303) 484-0402

COLLECTION DESCRIPTION: Seeds collection
Data and Specimens
PURPOSE OF COLLECTION: For use of plant breeders in developing new varieties
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
NUMBER OF SAMPLES: 86,615
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal cans with quarter turn lids
TEMPERATURE: 5 degrees C
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Available to qualified researchers, mainly plant breeders, when there is no other source known
ADDITIONAL INFORMATION: 86,615

<340>
Ole A. Kolstas
Dept.. of Biology;Kearney State College;Kearney, Nebraska 68847
(308) 236-4281

FORMAL NAME OF COLLECTION: Kearney State Herbarium
COLLECTION DESCRIPTION: Aquatic and terrestrial bryophytes, spermatophytes and pteridophytes
Data and Specimens
SAMPLING LOCATION:
STATE: Nebraska
GEOGRAPHICAL AREA: Midwestern United States
NUMBER OF SAMPLES: 15, 000
ADDITIONAL INFORMATION: Collections are primarily from the state of Nebraska but includes many specimens from the midwest

<341>
Clait Braun
Division of Wildlife; P.O.Box 2287;Ft. Collins, CO 80521
(303) 484-2836

COLLECTION DESCRIPTION: Seeds and plant parts
PURPOSE OF COLLECTION: Verification of food items and voucher specimens
SAMPLING LOCATION:
STATE: Colorado
DATES OF SAMPLING: 1964 to present
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Dried
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal

COMPONENT OF INTEREST: OTHER

<342>
Howard P. Tietjen
Denver Wildlife Research Center; US Dept. of the Interior; U.S. Fish & Wildlife Service; Bldg. 16, Denver Federal Center; Denver, CO 80225
(303) 234-2126

FORMAL NAME OF COLLECTION: Food Habits Collection, Bldg. 45, Federal Center, Lakewood, CO 80225
COLLECTION DESCRIPTION: Aquatic and terrestrial bryophytes, tracheophytes,ptericdophytes, and spermatophytes; seed samples
Data and Specimens
PURPOSE OF COLLECTION: Reference for unknown plant specimens and for use in food habits studies (mammalian and avian).
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Western United States
DATES OF SAMPLING: 1900 to present
NUMBER OF SAMPLES: 137 families (733 genera) of plants with cross-indexed seeds.
SAMPLING METHODS: Plants and seeds collected intact, air dried, and mounted (plants), or displayed in vials (seeds.)
PERMANENT STORAGE PREPARATION: Intact Storage
    FUMIGATION: Potassium cyanide and paradichlorobenzene
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Steel specimen cabinets
    TEMPERATURE: Room temperature
    HUMIDITY: Ambient
    LIGHT EXPOSURE: Only during study
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Available at any time by prior arrangement

<343>
William F. Mahler
Herbarium; Southern Methodist University; Dallas, TX 75222
(214) 692-2257

COLLECTION DESCRIPTION: Herbarium of lichens, embryophytes, bryophytes, tracheophytes, pteridophytes, and spermatophytes
Specimens Only
PURPOSE OF COLLECTION: Research and teaching
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1791 to present
NUMBER OF SAMPLES: 350,000
SAMPLING METHODS: Standard herbarium techniques
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Herbarium cases (wood)
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Loan of specimens to qualified institutions
ADDITIONAL INFORMATION: Systematic library housed with specimens

<344>
David F. Murray
Herbarium;University of Alaska;College, AK 99701
(907) 479-7108

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial polar and sub-polar plants
Data and Specimens
PURPOSE OF COLLECTION: Undergraduate and graduate education, museum collection, documentation, research
SAMPLING LOCATION:
    STATE: Alaska
    GEOGRAPHICAL AREA: Circumpolar region
DATES OF SAMPLING: 1930 to present
NUMBER OF SAMPLES: 63,041
SAMPLING METHODS: Standard plant collection methods
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: All specimens are dried
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Metal herbarium cabinets
    TEMPERATURE: Room temperature
    HUMIDITY: None
    LIGHT EXPOSURE: Uncontrolled
    STORAGE MEDIA: Paradichlorobenzene
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Loans of specimens are obtainable upon application to the curator. Visiting researchers are welcome to use the facilities
PUBLICATIONS: Anderson, J.P. 1959. Flora of Alaska and adjacent parts of Canada. Iowa State Univ. Press, Ames. 534 p.; Gjaerevoll, Olay. 1958, 1963, 1967. Botanical investigations in central Alaska, especially in the White Mountains. Det Kgl Norske Videnskabers Selskabs Skrifter, Trondheim; Hulten, Eric. 1941-1950. Flora of Alaska and yukon. Parts 1-10. C.W.K. Gleerup, Lund. 1902 p; Hulten. 1968. Flora of Alaska and neighboring territories. Stanford Univ. Press, Stanford. 1008; Porsild, A.E. 1939. Contributions to the flora of Alaska. Rhodora 41:141-183, 199-254, 262-301; Prosild. 1951. Botany of southeastern Yukon adjacent to the Canol Road. Nat. Mus. Can. Bull. No. 121. 400 p; Rollins, R.C. 1956. The role of the University herbarium in research and teaching. Taxon 14: 115-120; Shelter, S.G. 1966. Meeting of North America Committee. Taxon 15:255-257; Shetler. 1969. Flora North American Project. Ann. Missouri Bot. Gard. 55:176-178; Shetler. 1969. Flora North America Project. Ann. Missouri Bot. Gard. 55:[illegible]-205; Smith, A.C. 1966. Advice to administrators of systematic collections. Taxon 15: [illegible]-205; Soper, J.H. 1964. Mapping the distribution of plants by machine. Can. J. Botany 42:1087-1100; Soper. 1966. Machine-plotting phytogeographical data. Can. Geogr. 10:16-26; Wiggins, I.L. and J.H. Thomas. 1962. A flora of the Alaskan Arctic Slope Univ. Toronto Press. 425 p.
ADDITIONAL INFORMATION: Computerized data and distribution map plotting; Samples available: Marine algae-807; Fungi-42; Lichens-6,108; Bryophytes-[illegible],790; Tracheophytes-47,294

<345>
Peg Tileston
Alaska Center for the Environment; Alaska Environmental Institute, Inc.;913 West Sixth Avenue;Anchorage, AK 99503
(907) 274-3621

COLLECTION DESCRIPTION: Specimen collection of native Alaska plants
Data and Specimens
SAMPLING LOCATION:
    STATE: Alaska
NUMBER OF SAMPLES: 100
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Pressed and sealed on Cards
ADDITIONAL INFORMATION: Specimen collection of pressed wildflowers, shrubs, grasses, and tree leaves of native plants with scientific name, common name, description, and locale.

<346>

COMPONENT OF INTEREST: OTHER

<346>
Charles F. Quibell
North Coast Herbarium; Dept. of Biology;
California State College, Sonoma; Rohnert Park,
CA 94928
(707) 795-2189; (707) 795-2301

COLLECTION DESCRIPTION: Herbarium collection of algae, fungi, lichens, tracheophytes, pteridophytes, and spermatophytes
Specimens Only
PURPOSE OF COLLECTION: Reference; teaching; research
SAMPLING LOCATION:
    COUNTY: N.W. counties
    STATE: California
    GEOGRAPHICAL AREA: Mexico
DATES OF SAMPLING: 1890 to present
NUMBER OF SAMPLES: 20, 000 spermatophytes; 2000 algae; 800 fungi
SAMPLING METHODS: Field collection
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: Fumigation of tracheophytes, 12 hours at 54 degrees C
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Metal sheathed, cases with "weather stripping"
    TEMPERATURE: Air conditioned room
    HUMIDITY: None
    LIGHT EXPOSURE: only during use
    STORAGE MEDIA: Naphthalene and paradichlorobenezene
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens available for loan to appropriate institutions

<347>
Richard B. Walker
Dept. of Botany, AK-10;University of
Washington;Seattle, WA 98195
(206) 543-1985

COLLECTION DESCRIPTION: Terrestrial wild and domestic embryophytes, tracheophytes, and spermatophytes; serpentine soils
Data and Specimens
PURPOSE OF COLLECTION: (a) greenhouse mineral nutrition experiments; (b) serpentine soils and mineral adsorption by plants growing on them; (c) Cs-137 and K absorption by plants of Rongelap Atoll
SAMPLING LOCATION:
    STATE: California; Oregon; Washington
    GEOGRAPHICAL AREA: Rongelap Atoll, Marshall Islands
DATES OF SAMPLING: 1947 to 1974
NUMBER OF SAMPLES: Approx. 500
SAMPLING METHODS: Hand collection, of leaves or entire shoots.
TEMPORARY CONTAINER: Kraft paper bags
DELAY BEFORE PERMANENT STORAGE: a few days
PERMANENT STORAGE PREPARATION: Homogenized
    DRYING: 80 degrees C
    OTHER: Grinding in Wiley Mill to 40 mesh
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass jars
    LIGHT EXPOSURE: Darkness
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Glad to correspond with anyone interested in current data availability or samples and potential supplying of samples.
ADDITIONAL INFORMATION: Older samples may be of value in establishing background levels of contaminating trace minerals or radionuclides which have been coming into the environment in greater amounts more recently.

<348>
Kenton Chambers
The Herbarium; Cordley Hall; Oregon State
University; Corvallis, OR 97331
(503) 754-1106

COLLECTION DESCRIPTION: Traditional herbarium of aquatic, marine, and terrestrial algae, fungi, lichens, embryophytes, bryophytes, tracheophytes, pteridophytes, and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: To support research, teaching and public information functions of Oregon State University; i.e. museum.
SAMPLING LOCATION:
    STATE: Oregon
    GEOGRAPHICAL AREA: Pacific Northwestern United States; North America; Worldwide
DATES OF SAMPLING: 1880 to present
NUMBER OF SAMPLES: 131,500 tracheophytes; 2,150 bryophytes; 34,200 fungi and lichens; 150 algae
PERMANENT STORAGE PREPARATION: Intact Storage
    FUMIGATION: Ethylenedichloride and carbon tetrachloride; 3:1 mixture, applied as volatiles once yearly.
    DRYING: All specimens dried before storage.
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Closed steel cabinets, of regular herbarium type.
    TEMPERATURE: None
    HUMIDITY: None
    LIGHT EXPOSURE: Dark
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and data freely available by interinstitutional loan to qualified investigators; facilities for visitors.

<349>
Clarence M. Rincker
U.S. Dept. of Agriculture; Irrigated Agric.
Research & Extension Center; Prosser, WA 99350
(509) 786-3454

COLLECTION DESCRIPTION: Seeds of forage plants - grasses and legumes.
COMMON NAME: Crops
PURPOSE OF COLLECTION: Maintenance of germplasm and seed viability
SAMPLING LOCATION:
    CITY: Prossor
    COUNTY: Benton
    STATE: Washington; California
DATES OF SAMPLING: 1957 to present
NUMBER OF SAMPLES: 2000 to 3000
SAMPLING METHODS: Seeds collected from research projects
TEMPORARY CONTAINER: Cotton bags
    FREEZING: -5 to -15 degrees C
    DRYING: 5 to 10 per cent moisture content
PERMANENT STORAGE CONDITIONS:
    TEMPERATURE: -5 to -15 degrees C
    HUMIDITY: None
    LIGHT EXPOSURE: None
AVAILABILITY OF SAMPLES AND/OR DATA: Restricted to research project
ADDITIONAL INFORMATION: Fifteen species (grasses and legumes) grown in three locations over a period of time. Available seeds limited to 5 to 10 grams.

COMPONENT OF INTEREST: OTHER

<350>
Charles F. Yocom
Dept. of Wildlife Management; School of Natural Resources; Humboldt State University; 1666 Charles Ave.; Arcata, CA 95521
(707) 826-4147

COLLECTION DESCRIPTION: Seed collection
Specimens Only
PURPOSE OF COLLECTION: For seed identification of food items consumed by wild animals
SAMPLING LOCATION:
CITY: Pullman
COUNTY: Whitman
STATE: Washington
DATES OF SAMPLING: 1930 to 1950
NUMBER OF SAMPLES: several hundred
SAMPLING METHODS: Seeds taken from mature plants
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Yes
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass vials

<351>
R.W. Roberts; Don Leckenby
P.O. Box 9;Oregon State Game Commission; Division of Wildlife Research;Silver Lake, OR 97638
(503) 576-2153

COLLECTION DESCRIPTION: Perennial grasses and forbs; annual grasses; grasslike plants; shrubs and trees; epiphytes
Data and Specimens
PURPOSE OF COLLECTION: Reference plant collection for use in site potential identification
SAMPLING LOCATION:
COUNTY: Lake; Klamath; Crook; Deschutes
STATE: Oregon; Idaho
GEOGRAPHICAL AREA: Considerable collection within the sagebrush/juniper zone (related to mule deer winter range)
DATES OF SAMPLING: About 1958 to present
TEMPORARY STORAGE PROCEDURES: Plant press - ordinary blotter, cardboard arrangement
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Pressed
PERMANENT STORAGE CONDITIONS:
CONTAINER: Steel cabinet, insect proof, in cardboard arrangement
TEMPERATURE: None
HUMIDITY: None
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Actual pressed plants available at the project location for examination (voucher mounts). Data related to plant community, collection conditions to be published soon
ADDITIONAL INFORMATION: Samples generally related to the identification of plant communities as indicators of site potential and response to cultural treatment for predicting effects of certain management practices used in promoting increased numbers of wildlife. Species list available.

<352>
George G. Williges
Dept. of Biology; Texas A&I University; Kingsville, TX 78363
(512) 595-3803

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial pteridophytes and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
STATE: Texas
GEOGRAPHICAL AREA: South Texas
DATES OF SAMPLING: 1920's to present
NUMBER OF SAMPLES: Approx. 5000
RESULTS OF ANALYSES: Entire plant on smaller specimens and parts of plants on larger specimens
SAMPLING METHODS: Standard herbarium techniques
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Herbarium cases
TEMPERATURE: Room temperature
HUMIDITY: Ambient
LIGHT EXPOSURE: None
STORAGE MEDIA: At present - Shell - no pest strips used
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Depends - In the past we have sent some out on loan

<353>
R.A. Peppers
223 Natural Resources Bldg; Urbana, IL 61801
(217) 344-1481, ext. 224

FORMAL NAME OF COLLECTION: Palynological collection
COLLECTION DESCRIPTION: Fossil spores from coal samples
Data and Specimens
PURPOSE OF COLLECTION: Geological Survey of Coal Illinois; Indiana; Kentucky
STATE: Illinois; Indiana; Kentucky
DATES OF SAMPLING: 1920 to present
NUMBER OF SAMPLES: 50,000 slides and 7,000 whole coal samples
RESULTS OF ANALYSES: Mounted slides and whole coal samples
TEMPORARY CONTAINER: polyethylene bags and glass jars
PERMANENT STORAGE PREPARATION: Fractionated
CHEMICAL STABILIZATION: Canadian Balsam (sides); alcohol undiluted technical grade
OTHER: Mounted on slides
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass slides and bottles
TEMPERATURE: Ambient room temperature
LIGHT EXPOSURE: Closed light-tight boxes
STORAGE MEDIA: Air, alcohol, canadian balsam
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Data and samples available

<354>
James N. Skeen
Fernbank Science Center; 156 Heaton Park Dr. NE; Atlanta, GA 30307
(404) 378-4311

COLLECTION DESCRIPTION: Museum collection of pteridophytes and spermatophytes; no analysis done
Specimens Only
PURPOSE OF COLLECTION: Museum reference collections
SAMPLING LOCATION:
STATE: Georgia
GEOGRAPHICAL AREA: Northeastern Georgia; United States
DATES OF SAMPLING: 1965 to present
NUMBER OF SAMPLES: 500
SAMPLING METHODS: Normal plant collecting procedures
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: 105 degrees C for 24-48 hrs
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal herbarium cases
TEMPERATURE: Temperature controlled room
HUMIDITY: Air-conditioned storage area
LIGHT EXPOSURE: Darkness
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: On request
ADDITIONAL INFORMATION: Species list available

<355>

COMPONENT OF INTEREST: OTHER

<355>
Hugh H. DeWitt
Darling Center; Walpole, ME 04573
(207) 563-3146

COLLECTION DESCRIPTION: Marine and aquatic animals
Data and Specimens
PURPOSE OF COLLECTION: Museum collection for teaching and research
SAMPLING LOCATION:
STATE: Maine
GEOGRAPHICAL AREA: Gulf of Maine; Western North Atlantic; Antarctic
DATES OF SAMPLING: 1958 to present
NUMBER OF SAMPLES: Approx. 200
SAMPLING METHODS: Fisheries surveys; convenience of areas for class collection
DELAY BEFORE PERMANENT STORAGE: 3-4 weeks to 5-6 years
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formaldehyde ca 3.5% (10% concentrated solution); commercial grade
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass; plastic lined fiber drums
LIGHT EXPOSURE: Maintained in dark room
STORAGE MEDIA: Isopropyl alcohol (generally); occasionally ethyl alcohol denatured with 1% methyl alcohol
STORAGE LIFE OF SAMPLE: Indeterminate
AVAILABILITY OF SAMPLES AND/OR DATA: Loans of specimens and associated data made upon request

<356>
R. Spellenberg
Dept. of Biology; P.O. Box 3AF New Mexico State University; Las Cruces, NM 88003
(505) 646-3732

COLLECTION DESCRIPTION: Terrestrial tracheophytes, pteridophytes, and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Southwest United States; Mexico
DATES OF SAMPLING: 1850-1974
NUMBER OF SAMPLES: 45,000
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Napthalene or dimethylbromide
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal cabinets
TEMPERATURE: Air conditioned building after 1970
LIGHT EXPOSURE: None
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Non-destructive examination to any qualified scientist, by loan

<357>
Perry C. Holt
Center for Systematic Studies; Virginia Polytechnic Institute & State University; Blacksburg, VA 24061
(703) 951-6766

COLLECTION DESCRIPTION: Natural history collection of plants and animals, including aquatic and terrestrial fungi, embryophytes, bryophytes, tracheophytes, pteridophytes, and spermatophytes; aquatic, terrestrial, and marine vertebrates and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Biosystematics research, teaching, identification, and voucher specimens
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide; United States
DATES OF SAMPLING: 1900 to present
SAMPLING METHODS: Varied
STORAGE LIFE OF SAMPLE: Indefinite-permanent
AVAILABILITY OF SAMPLES AND/OR DATA: Upon written application, specifying intended use and need
ADDITIONAL INFORMATION: Our collections are composed of materials collected, sorted and curated according to traditional natural history museum procedures

<358>
Robert Evers
State Natural History Survey; Champaign, IL 61820
(217) 333-6886

COLLECTION DESCRIPTION: Aquatic and terrestrial fungi, embryophytes, spermatophytes; lichens and pteridophytes
Data and Specimens
PURPOSE OF COLLECTION: Voucher materials for botanical survey
SAMPLING LOCATION:
STATE: Illinois
GEOGRAPHICAL AREA: Canada; Mexico; United States
DATES OF SAMPLING: 1880 to present
NUMBER OF SAMPLES: 154,224
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Dried
PERMANENT STORAGE CONDITIONS:
CONTAINER: Steel cabinets
STORAGE MEDIA: Air with PDB and napthalene
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens loaned to curators of herbaria for study.
ADDITIONAL INFORMATION: Specimens must remain intact. Any part removed must be replaced on the herbarium sheet in a separate packet.

<359>
Willem Meijer
Curator, Herbarium; School of Biological Sciences; Funkhouser 216; University of Kentucky; Lexington, KY 40506
(606) 257-2740

COLLECTION DESCRIPTION: Aquatic and terrestrial plants
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
STATE: Kentucky
DATES OF SAMPLING: 1840 to present
NUMBER OF SAMPLES: Approx. 40,000
RESULTS OF ANALYSES: Taxonomic surveys
SAMPLING METHODS: Dug up and put in press
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: HgCl (2) and dichlorobenzene
PERMANENT STORAGE CONDITIONS:
CONTAINER: Steel
TEMPERATURE: Room temperature
HUMIDITY: None
LIGHT EXPOSURE: Room light
STORAGE MEDIA: Air plus dichlorobenzene
STORAGE LIFE OF SAMPLE: Approx. 150 years
AVAILABILITY OF SAMPLES AND/OR DATA: Open and will answer all legitimate requests

COMPONENT OF INTEREST: OTHER

<360>
Richard D. Porcher, Jr.
The Citadel; Charleston, SC 29409
(803) 723-0611

COLLECTION DESCRIPTION: Tracheophytes, pteridophytes, and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: The Citadel Herbarium is a regional herbarium for collection of vascular plants from the S.C. Coastal Plain.
SAMPLING LOCATION:
STATE: South Carolina
GEOGRAPHICAL AREA: Coastal Plain; Piedmont; Mountains of South Carolina
DATES OF SAMPLING: 1970 to present
NUMBER OF SAMPLES: Approx. 3500 specimens of vascular plants.
SAMPLING METHODS: Standard field botany
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: paradichlorobenzene crystals.
PERMANENT STORAGE CONDITIONS:
CONTAINER: Herbarium cabinets
TEMPERATURE: Air conditioned
HUMIDITY: Kept under dry conditions
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens are available for loan.

<361>
T.S. Elias; James M. Stevenson
Cary Arboretum Herbariums; Box AB; Millbrook, NY 12545
(914) 677-5071; (914) 677-5725

COLLECTION DESCRIPTION: Aquatic and terrestrial spermatophytes and pteridophytes
Specimens Only
PURPOSE OF COLLECTION: Research standards; local vegetation studies; teaching
SAMPLING LOCATION:
CITY: Millbrook
COUNTY: Dutchess County
STATE: New York
GEOGRAPHICAL AREA: Cary Arboretum property
PRESAMPLING CONDITIONS: Generally old farm lands and forested areas much of land originally farmed has not been used for agriculture for 20 to 30 years
DATES OF SAMPLING: 1971 to present
NUMBER OF SAMPLES: Approx. 1500
TEMPORARY CONTAINER: Herbarium cases with moth balls-- until permanent herbarium is built into the new building
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Temporarily, moth balls are being used
AVAILABILITY OF SAMPLES AND/OR DATA: Herbarium is still incomplete. May be used on the premises, once permanent herbarium is completed, borrowing procedures for the collections may be worked out.

<362>
Dr. Pinkava
Higher Plant Herbarium; Arizona State University; Tempe, AZ 85281
(602) 961-9011

COLLECTION DESCRIPTION: Higher Plants
Data and Specimens
SAMPLING LOCATION:
STATE: Arizona
NUMBER OF SAMPLES: 100, 000
PERMANENT STORAGE PREPARATION: Intact Storage
STORAGE LIFE OF SAMPLE: Indefinite

<363>
J. Zavitkovski
Star Rt. #4; Rhinelander, WI 54501
(715) 362-7474

COLLECTION DESCRIPTION: Forest plants, including embryophytes, tracheophytes, pteridophytes, and spermatophytes
Specimens Only
PURPOSE OF COLLECTION: Herbarium and for research standards
SAMPLING LOCATION:
CITY: Enterprise
COUNTY: Oneida
STATE: Wisconsin
GEOGRAPHICAL AREA: Enterprise Radiation Forest; 89 degrees 20 min. W, 45 degrees 30 min. N
PRESAMPLING CONDITIONS: Area was logged over in early 1900's; Presently covered by broad-leaved forests (about 50%), swamps and other wetlands (50%)
DATES OF SAMPLING: 1968 to 1972
NUMBER OF SAMPLES: About 100 different plant species
SAMPLING METHODS: Standard methods used in collecting herbarium specimens
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: As used for herbarium samples
PERMANENT STORAGE CONDITIONS:
LIGHT EXPOSURE: Darkness
STORAGE LIFE OF SAMPLE: Many years
AVAILABILITY OF SAMPLES AND/OR DATA: Available for inspection

<364>
A.F. Gholson, Jr.
P.O. Box 96; Chattahoochee, FL 32324
(912) 662-2814

FORMAL NAME OF COLLECTION: Lake Seminole Herbarium
COLLECTION DESCRIPTION: Plants including terrestrial and aquatic algae, embrophytes, bryophytes, tracheophytes, pteridophytes, and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Lake and land management utilization
SAMPLING LOCATION:
STATE: Florida; Georgia; Alabama; Mississippi; South Carolina; North Carolina
PRESAMPLING CONDITIONS: Periodic surveys and observations
DATES OF SAMPLING: 1968 - 1975
NUMBER OF SAMPLES: Approx. 1600 species at present others being added
RESULTS OF ANALYSES: Herbarium sheets
SAMPLING METHODS: Plants are pressed and dried
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Data will be available and samples too if request not too large
ADDITIONAL INFORMATION: Genus and species list in preparation

<365>

COMPONENT OF INTEREST: OTHER

<365>
Jedfrey Carlton
Florida Dept. of Natural Resources; Marine Research Laboratory; 100 8th Ave. SE; St. Petersburg, FL 33701
(813) 896-9626

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial algae, fungi, tracheophytes, and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Reference collection of Florida shore and marine plants
SAMPLING LOCATION:
STATE: Florida
GEOGRAPHICAL AREA: Coastal lands and waters of Florida
DATES OF SAMPLING: 1950 to present
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Vascular plants stored on herbarium sheet; algae and microscopic plants stored in formalin
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Available on request

<366>
Michael Eubanks
Corps of Engineers; P. O. Box 2288; Mobile, AL 36628
(205) 690-2725

COLLECTION DESCRIPTION: Aquatic plants
Specimens Only
PURPOSE OF COLLECTION: Reference herbarium
SAMPLING LOCATION:
STATE: Alabama; Mississippi; Georgia; Florida
DATES OF SAMPLING: 1973 - 1974
TEMPORARY CONTAINER: Specimens mounted on herbarium sheets and kept in shelves
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Plants dried in plant press
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Available to the general public

<367>
Bud Horder
Corps of Engineers; P.O. Box 2288; Mobile, Al 36628
(205) 690-2655

COLLECTION DESCRIPTION: Terrestrial plants
Specimens Only
PURPOSE OF COLLECTION: Identification and for forest type surveys, rare plants and tree or shrub preservation
SAMPLING LOCATION:
STATE: Alabama; Mississippi; Florida; Georgia
DATES OF SAMPLING: 1955 - 1974
NUMBER OF SAMPLES: Approx. 60 families
SAMPLING METHODS: Transects or other surveys on government owned lands administered by the Corps of Engineers
TEMPORARY CONTAINER: File cabinet storage, only moderately good
TEMPORARY STORAGE PROCEDURES: Leaf and twig pressings affixed to 8 1/2 x 10 cards, not pressed prior to mounting
DELAY BEFORE PERMANENT STORAGE: Samples in reasonably good condition
AVAILABILITY OF SAMPLES AND/OR DATA: Anyone can examine the leaf collections

<368>
John Foley
Biological Monitoring; South Carolina Dept. of Health and Environmental Control; 2600 Bull St.; Columbia, SC 29201
(803) 758-3499

COLLECTION DESCRIPTION: Algae data
Data Collection Only
PURPOSE OF COLLECTION: Identification and species abundance of algae
SAMPLING LOCATION:
STATE: South Carolina
DATES OF SAMPLING: May, 1973
SAMPLING METHODS: Grab samples

<369>
Charles W. Reimer
Dept. of Diatoms; Philadelphia Academy of Natural Science; 19th & Parkway; Philadelphia, PA 19103
(215) 567-3700, ext. 346

COLLECTION DESCRIPTION: Diatoms; lake, river, estuarine, and marine bottom sediments; soils; eutrophic, oligotrophic, and dystrophic lake water; river and brackish water samples; estuarine, coastal, and marine seawater samples
Data and Specimens
SCIENTIFIC NAME: Bacillariophyta
COMMON NAME: Diatoms
PURPOSE OF COLLECTION: Repositorium and reference collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1820 to present
NUMBER OF SAMPLES: 125, 000 slides; 15 cases bottled material
PERMANENT STORAGE PREPARATION: Intact Storage
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<370>
Stanley W. Harris
Wildlife Management; School of Natural Resources; Humbolt State College; Arcata, CA 95521
(707) 826-3450

COLLECTION DESCRIPTION: Birds and mammals
Data and Specimens
PURPOSE OF COLLECTION: Teaching
SAMPLING LOCATION:
STATE: California
DATES OF SAMPLING: 1952 to present
NUMBER OF SAMPLES: 3500 birds; 500 mammals
SAMPLING METHODS: Shotgun and kill-traps until 1967; road kills and miscellaneous mortalities since 1967; Sampling sites determined by accessibility
TEMPORARY CONTAINER: Plastic bags, paper bags, cardboard boxes
TEMPORARY STORAGE PROCEDURES: Stored in a freezer until able to prepare skin for mounting
DELAY BEFORE PERMANENT STORAGE: 1 week to 6 or more months
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -18 degrees C
CHEMICAL STABILIZATION: Borax soap or arsenic powder
OTHER: Skinned and stuffed with cotton or wood wool
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal and/or wood
TEMPERATURE: Room temperature
HUMIDITY: None-sealed cabinets
LIGHT EXPOSURE: Exposed to light when examined or used in class exercise
STORAGE MEDIA: Dichlorobenzene
STORAGE LIFE OF SAMPLE: 80-90 years
AVAILABILITY OF SAMPLES AND/OR DATA: Examination available on premises; no funds available for loans

COMPONENT OF INTEREST: OTHER

<371>
Pete Wilkinson
Battelle Marine Research; Rt. 2, Box 140; Sequim, WA 98382
(206) 683-4151

COLLECTION DESCRIPTION: Marine algae and animals
Data and Specimens
PURPOSE OF COLLECTION: Research and museum collection
SAMPLING LOCATION:
    STATE: Washington
    GEOGRAPHICAL AREA: Cherry Point; Strait of Georgia; Sequim Bay
DATES OF SAMPLING: 1968 to 1970; 1974 to present
SAMPLING METHODS: Shovel; grab samples
TEMPORARY CONTAINER: Glass with plastic lid
TEMPORARY STORAGE PROCEDURES: Formalin fixed
DELAY BEFORE PERMANENT STORAGE: 1 year or more
AVAILABILITY OF SAMPLES AND/OR DATA: Restricted by sponsors

<372>
Donald H. Miller
Dept of Science; Lyndon State College; Lyndonville, VT 05851
(802) 626-3335

COLLECTION DESCRIPTION: Tracheophytes, pteridophytes, and spermatophytes, some algae and small animals; many Siphonaptera
Data and Specimens
PURPOSE OF COLLECTION: Teaching and museum collection
SAMPLING LOCATION:
    COUNTY: Orleans; caledonia; Essex
    STATE: Vermont
    GEOGRAPHICAL AREA: Central America
DATES OF SAMPLING: 1959 to present
NUMBER OF SAMPLES: Approx. 2000 plants; 500 animals
SAMPLING METHODS: General
TEMPORARY CONTAINER: Plants pressed in herbarium; animals mounted or in solution
AVAILABILITY OF SAMPLES AND/OR DATA: Available if shipping costs paid
ADDITIONAL INFORMATION: Collection consists largely of vascular plants and some small mammals, all well curated and accurately identified, with a large number of Siphonaptera

<373>
Daniel P. Mahoney
Dept. of Biology; 214 Biological Science Bldg.; California State University; 5151 State University Drive; Los Angeles, CA 90032
(213) 224-2282

COLLECTION DESCRIPTION: Aquatic and terrestrial algae and fungi
Specimens Only
PURPOSE OF COLLECTION: Teaching and Research
SAMPLING LOCATION:
    CITY: Bloomington, Indiana; Madison, Wisconsin
    STATE: Indiana; Wisconsin
    GEOGRAPHICAL AREA: Isla Santa Cruz, Galapagos Islands
PRESAMPLING CONDITIONS: Undisturbed habitats
DATES OF SAMPLING: 1925 to present
SAMPLING METHODS: Sterile whirlpac plastic bags for the soil samples from which the fungi were isolated - soil samples then destroyed
PERMANENT STORAGE PREPARATION: Intact Storage
    FREEZING: 5 degrees C-Fungi; 20 degrees C-Algae
    LYPHYLIZATION: Some fungi
PERMANENT STORAGE CONDITIONS:
    TEMPERATURE: Refrigeration; incubation
    LIGHT EXPOSURE: Algae: 16 light; 8 dark
    STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Within reason
ADDITIONAL INFORMATION: Species list available

<374>
Richard R. Petersen
Dept. of Biology; Portland State University; Box 751; Portland, OR 97202
(503) 229-4206; (503) 229-4209

COLLECTION DESCRIPTION: Membrane filter sections and prepared slides of aquatic algae; river water samples
Data and Specimens
PURPOSE OF COLLECTION: Ecological Study of Willamette River
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: RM 7 to RM 50 of Willamette River
DATES OF SAMPLING: April 1973 to present, (Fall '74)
NUMBER OF SAMPLES: Approx. 100
SAMPLING METHODS: Membrane filter concentration technique
TEMPORARY STORAGE PROCEDURES: Standard methods
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Slide boxes
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: May be borrowed

<375>
Bill Calloway
Texas Instruments, Inc.; P.O. Box 5621, M/S 949; Dallas, TX 75222
(214) 238-4221

COLLECTION DESCRIPTION: Aquatic plants including algae and tracheophytes
Data and Specimens
SAMPLING LOCATION:
    CITY: Dunkirk, N.Y.; Gary, IN; Maromas, CT; Northfield, MA; Montague, MA
    STATE: New York; Indiana; Massachusetts; Connecticut
DATES OF SAMPLING: 5/73-12/74 Montague, CT; 5/74 to present Michigan
NUMBER OF SAMPLES: 350, 400, 430, 125, 42
SAMPLING METHODS: Towed nets, Kemmerer water bottle, Van Dorn bottle
TEMPORARY CONTAINER: Plastic (PVC or other petroleum derivatives)
TEMPORARY STORAGE PROCEDURES: Whole sample stored or concentrated by centrifugation and stored
DELAY BEFORE PERMANENT STORAGE: 1 to 3 months
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: 4% formaldehyde, buffered
    RADIATION: Vermont Yankee Atomic Plant
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Plastic
    TEMPERATURE: 18.3 to 24 degrees C
    LIGHT EXPOSURE: Fluorescent
    STORAGE MEDIA: 4% formaldehyde in water
STORAGE LIFE OF SAMPLE: 3 years

<376>

COMPONENT OF INTEREST: OTHER

<376>
Richard L. Meyer
Dept. of Botany and Bacteriology; University of Arkansas; Fayetteville, AR 72701
(501) 575-4901

COLLECTION DESCRIPTION: Aquatic algae; eutrophic, oligotrophic, and dystrophic lake water samples
Data and Specimens
COMMON NAME: Freshwater algae
PURPOSE OF COLLECTION: Reference collection, developmental morphology and type specimens
SAMPLING LOCATION:
GEOGRAPHICAL AREA: North America; United States
DATES OF SAMPLING: 1957 to present
NUMBER OF SAMPLES: Approx. 1,000
SAMPLING METHODS: Grab, concentrates, tows, cultures
TEMPORARY CONTAINER: Glass vials
TEMPORARY STORAGE PROCEDURES: Direct fixation with M(3), 2%, fixative or osmium tetroxide, 0.5%
DELAY BEFORE PERMANENT STORAGE: Usually immediate fixation
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: M(3) Fixative 2% or osmium tetroxide 0.5%
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: Room temperature
LIGHT EXPOSURE: Dark
STORAGE MEDIA: M(3) fixative
STORAGE LIFE OF SAMPLE: 20 + years
AVAILABILITY OF SAMPLES AND/OR DATA: Data, public information, samples upon request to appropriate researchers

<377>
Ray T. Oglesby
Dept. of Natural Resources; Fernow Hall; Cornell University; Ithaca, NY 14853
(607) 256-2110

COLLECTION DESCRIPTION: Freshwater phytoplankton and zooplankton
Data and Specimens
PURPOSE OF COLLECTION: Baseline reference
SAMPLING LOCATION:
STATE: New York
GEOGRAPHICAL AREA: Skaneateles Lake; Owasco Lake; Cayuga Lake; Hemlock Lake; Conesus Lake; Finger Lakes
DATES OF SAMPLING: Jan, 1972 - Aug, 1974
NUMBER OF SAMPLES: 2 yrs at 1-2 wk intervals for data, selected preserved samples
SAMPLING METHODS: Van Dorn bottles
TEMPORARY CONTAINER: Glass
TEMPORARY STORAGE PROCEDURES: Lugol's solution
DELAY BEFORE PERMANENT STORAGE: 5 min
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Lugol's iodine maintained to visible brown color
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
LIGHT EXPOSURE: Ambient
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Data will be available by Jan., 1975. Specimens may be examined in situ

<378>
Carl E. Bond
Dept. of Fisheries and Wildlife; Oregon State University; Corvallis, OR 97331
(503) 754-1531

COLLECTION DESCRIPTION: Marine and aquatic fish
Specimens Only
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Pacific Northwest United States
DATES OF SAMPLING: 194 to present
NUMBER OF SAMPLES: Approx. 5,000 catalog entries plus uncataloged material
TEMPORARY CONTAINER: Glass; plastic
TEMPORARY STORAGE PROCEDURES: Soak in tap water for approx. 7 days to remove formalin, place in 40% isopropanol for storage and identification
DELAY BEFORE PERMANENT STORAGE: Variable
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 10% formalin (purified commercial 37%); 40% isopropanol (99.5% stock)
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass; plastic
TEMPERATURE: 20 degrees C
LIGHT EXPOSURE: Minimum - lights off except when work is in progress
STORAGE MEDIA: 40% isopropanol
AVAILABILITY OF SAMPLES AND/OR DATA: Cataloged specimens available on loan, some uncataloged material available on gift or exchange basis.

<379>
Imre E. Friedmann
Dept. of Biological Science; Florida State University; Tallahassee, FL 32306
(904) 644-5438

COLLECTION DESCRIPTION: Collection of lithophytic algae in desert rocks.
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States; Mexico
DATES OF SAMPLING: 1969-1973
NUMBER OF SAMPLES: Approx. 400
SAMPLING METHODS: Rock samples selected for occurrence of algae in rock tissue
TEMPORARY CONTAINER: Sterile plastic bags
PERMANENT STORAGE PREPARATION: Intact Storage
STORAGE LIFE OF SAMPLE: Approx. 10-20 years
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Rocks contain living blue-green algae. About 120 algae have been isolated in laboratory cultures and are being maintained for research purposes.

<380>
Martha A. Sherwood
Dept. of Plant Pathology; 334 Plant Science Bldg.; Cornell University; Ithaca, NY 14850
(607) 256-3293

COLLECTION DESCRIPTION: Fungi and lichens
Data and Specimens
PURPOSE OF COLLECTION: Taxonomic reference collection, also for demonstrating disease symptoms
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1800 to present; bulk of collection since 1880
NUMBER OF SAMPLES: Approx. 150,000
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Ethylene dibromide; Napthalene
DRYING: Most specimens dried (temperature not known)
OTHER: Canned in mason jars, pickled in alcohol
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Relatively little
STORAGE MEDIA: Mostly in air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available on loan to qualified researchers; herbarium usually open to visitors 9 am - 5 pm Monday - Friday
ADDITIONAL INFORMATION: In most cases the amount of material stored is small. Taxonomically valuable collections certainly could not be macerated in toto for chemical analysis.

COMPONENT OF INTEREST: OTHER

<381>
Paul L. Lentz
Mycology Laboratory, Plant Protection Institute; Agricultural Research Service, U.S. Dept. of Agriculture; Room 25, Bldg. 005; ARC-West; Beltsville, MD 20705
(301) 344-3365

FORMAL NAME OF COLLECTION: National Fungus Collections
COLLECTION DESCRIPTION: Fungi and plant hosts
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide
NUMBER OF SAMPLES: 800,000
TEMPORARY CONTAINER: Storage in closed herbarium case
TEMPORARY STORAGE PROCEDURES: Fumigation usually by paradichlorobenzene or naphthalene
DELAY BEFORE PERMANENT STORAGE: Varies from days to weeks
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Steel herbarium cases
STORAGE LIFE OF SAMPLE: Dried fungus specimens are maintainable for at least hundreds of years
AVAILABILITY OF SAMPLES AND/OR DATA: Usually available for research study involving minimal destruction of specimens

<382>
C. Gardner Shaw
Mycological Herbarium; Dept. of Plant Pathology; Washington State University; Pullman, WA 99163
(509) 335-1086

COLLECTION DESCRIPTION: Herbarium collection of fungi
Data and Specimens
PURPOSE OF COLLECTION: Representative collection
SAMPLING LOCATION:
    STATE: Alaska; Washington; Idaho; Montana
    GEOGRAPHICAL AREA: Northwest United States; Worldwide;British Columbia; Alberta; Canada
PRESAMPLING CONDITIONS: Each specimen has complete collection data.
DATES OF SAMPLING: 1880 to present
NUMBER OF SAMPLES: 60,000
SAMPLING METHODS: Varied - Field collecting, soil sampling by dilution; isolation from diseased plants and animals, use of selective media; baiting with special substrates, including everything from hemp to hair.
TEMPORARY CONTAINER: Paper packets and boxes
PERMANENT STORAGE PREPARATION: Intact storage
    CHEMICAL STABILIZATION: Paradichlorobenzene to prevent insect depredation.
    FUMIGATION: Paradichlorobenzene.
    DRYING: 60 degrees C for 24 Hrs.
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Paper packets or paper boxes; a very few specimens kept in liquid preservatives. Some semi permanent slides.
    LIGHT EXPOSURE: Specimens sorted in metal herbarium cases; exposed only during study
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Freely available to qualified mycologists trained in systematics (taxonomy)

<383>
Arthur D. Partridge
College of Forestry; University of Idaho; Moscow, ID 83843
(208) 885-6715

COLLECTION DESCRIPTION: Forest Fungi and lichens
PURPOSE OF COLLECTION: Research in forest pathology and fungal taxonomy
SAMPLING LOCATION:
    CITY: Moscow
    COUNTY: Latah
    STATE: Idaho
DATES OF SAMPLING: Approx. 1920 to present
NUMBER OF SAMPLES: 3500
PERMANENT STORAGE PREPARATION: Intact Storage
    FUMIGATION: Dried specimens treated periodically with insecticide
    DRYING: Dried and mounted
PERMANENT STORAGE CONDITIONS:
    CONTAINER: 25mm capped test tubes; standard herbarium cases
    TEMPERATURE: Refrigeration ;none
    STORAGE MEDIA: 2% malt agar;air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and data available to recognized institutions and individuals by personal visit to this campus or by registered U.S. Mail.
ADDITIONAL INFORMATION: Eighty species of wood-inhabiting fungi are maintained. Specimens are transferred to fresh agar at approximately 2 year intervals.

<384>
John F. Tibbs
Biological Station; University of Montana; Yellow Bay; Bigfork, MT 59911
(406) 982-3201

COLLECTION DESCRIPTION: Fungi; lichens, tracheophytes, pteridophytes, spermatophytes both aquatic and terrestrial; aquatic and terrestrial animals, insects and crustaceans; lake bottom sediments; water from eutrophic, oligotrophic, and dystrophic lakes and from rivers and streams
Data and Specimens
PURPOSE OF COLLECTION: Research standards, chemical analyses, teaching
SAMPLING LOCATION:
    COUNTY: Flathead; Lake
    STATE: Montana
DATES OF SAMPLING: 1950 to 1974

<385>
Hugh J. Porter
UNC-CH; Institute of Marine Sciences; Morehead City, NC 28557
(919) 726-6841

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial mollusks
Data and Specimens
PURPOSE OF COLLECTION: Repository for North Carolina collected specimens; data source for taxonomic studies; educational collection of identified specimens.
SAMPLING LOCATION:
    STATE: North Carolina
DATES OF SAMPLING: 1949 to 1974
NUMBER OF SAMPLES: 5,000 catalogued entries-possibly 20,000 individual specimens
TEMPORARY STORAGE PROCEDURES: Specimens either frozen or placed in 10% formaldehyde
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Plastic boxes or glass bottles
    LIGHT EXPOSURE: Dry collection in light-proof cabinets
    STORAGE MEDIA: Preserved collection stored primarily in 70% ethyl alcohol, some storage in 4% formaldhyde. Most specimens stored as dry shells.
AVAILABILITY OF SAMPLES AND/OR DATA: Samples may be borrowed or viewed by qualified malacologists or ecologists. Data is available.

<386>
Edward Hacskayld
USDA, Forest Physiology Lab.; Agriculture Research Center-West; Beltsville, MD 20705
(301) 344-3454

COLLECTION DESCRIPTION: Ectomycorrhizal fungi living cultures
Data and Specimens
COMMON NAME: Ectomycorrhizal fungi
PURPOSE OF COLLECTION: Physiological research and host innoculations
SAMPLING LOCATION:
STATE: Washington, D.C.; Maryland
GEOGRAPHICAL AREA: Europe
PRESAMPLING CONDITIONS: Mushrooms from conifer and hardwood forests
DATES OF SAMPLING: 1954 to 1970
NUMBER OF SAMPLES: 7 genera, 17 species, 26 isolates
SAMPLING METHODS: Collect fresh sporophores, isolate sterile tissue from interior. Collections made from root areas of host trees
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Subcultured every 6 to 8 weeks
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass tubes
TEMPERATURE: 19 degrees C
STORAGE MEDIA: Nutrient agar slants
AVAILABILITY OF SAMPLES AND/OR DATA: Individual isolates to researchers on limited basis. Not equipped for large quantity requests
ADDITIONAL INFORMATION: The collection includes 19 additional species from Europe. Species list available.

<387>
Jan J. Kohlmeyer
Institute of Marine Sciences; UNC-CH; Morehead City, NC 28557
(919) 726-6841

COLLECTION DESCRIPTION: Marine fungi
Data and Specimens
PURPOSE OF COLLECTION: Repository for worldwide collection; source for taxonomic studies
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1963 to present
NUMBER OF SAMPLES: 3500 microscope slides; 2000 additional entries each containing several samples
TEMPORARY CONTAINER: Plastic bags
TEMPORARY STORAGE PROCEDURES: Specimens dried, frozen, or placed in 4% formaldehyde or 76% alcohol.
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -20 degrees C
DRYING: Air drying
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic boxes or glass bottles
LIGHT EXPOSURE: In light-proof herbarium cabinets
STORAGE MEDIA: Collection consists predominantly of dried specimens, the remainder in 76% ethyl alcohol or in 4% formaldehyde
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens may be borrowed or viewed by qualified mycologists.

<388>
Thomas H. Nash
Dept. of Botany & Microbiology; Arizona State University; Tempe, AZ 85281
(602) 965-7735; (602) 965-3414 or -3414

COLLECTION DESCRIPTION: Lichens
Data and Specimens
PURPOSE OF COLLECTION: Taxonomic studies
SAMPLING LOCATION:
STATE: Arizona; New Mexico; Utah; California
GEOGRAPHICAL AREA: Mexico;Worldwide
DATES OF SAMPLING: Primarily 1971 to 1974
NUMBER OF SAMPLES: 11, 000
TEMPORARY CONTAINER: Paper bags
TEMPORARY STORAGE PROCEDURES: Air dried
DELAY BEFORE PERMANENT STORAGE: 2 months
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Air dried
PERMANENT STORAGE CONDITIONS:
CONTAINER: 100% cotton fiber paper
TEMPERATURE: Room temperature
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Samples may be loaned for periods up to 3 months
ADDITIONAL INFORMATION: Studies of chemical and morphological diversity

<389>
Dennis Disru
413 Hillcrest Drive; Minot, ND 58701
(701) 838-6101; Home (701) 839-3784

COLLECTION DESCRIPTION: Aquatic and terrestrial plants including embryophytes, bryophytes, tracheophytes, pteridophytes and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
COUNTY: Rolette; Bottineau; McHenry; Ward
STATE: North Dakota
GEOGRAPHICAL AREA: Province of Alberta
DATES OF SAMPLING: 1966 to present
NUMBER OF SAMPLES: Approx. 2500
SAMPLING METHODS: Standard field collecting methods
PERMANENT STORAGE PREPARATION: Intact storage
FUMIGATION: Paradichlorbenzene
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available on request

<390>
William E. Berg
Minnesota Dept. of Natural Resources; Division of Game and Fish; Box 101; Roosevelt, MN 56673
(218) 783-5863

COLLECTION DESCRIPTION: Aquatic and terrestrial tracheophytes, pteridophytes and spermatophytes
Specimens Only
PURPOSE OF COLLECTION: Research standards and identification of plant species in the field to determine vegetation response to fire.
SAMPLING LOCATION:
COUNTY: Beltrami; Lake of the Woods; Roseau
STATE: Minnesota
PRESAMPLING CONDITIONS: Two study areas; 2 sq. mi in size, one of which was burned.
DATES OF SAMPLING: 1963 to present
NUMBER OF SAMPLES: Approx 300
SAMPLING METHODS: Samples taken from 160 permanent vegetation plots originally located randomly in each 2 sq. area
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Air tight herbarium
ADDITIONAL INFORMATION: This is the only active herbarium for the northwestern part of Minnesota

COMPONENT OF INTEREST: OTHER

<391>
Paul Buck
Dept. of Life Sciences;University of Tulsa;600 South College; Tulsa, OK 74104
(918) 939-6351, ext 204

COLLECTION DESCRIPTION: Tracheophyte herbarium; some bryophytes
Data and Specimens
PURPOSE OF COLLECTION: Teaching
SAMPLING LOCATION:
STATE: Oklahoma
DATES OF SAMPLING: 1929 to present
NUMBER OF SAMPLES: Approx. 5,000
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Wooden and metal herbarium cases.
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens are available for loan upon request by researchers on institution letterhead stationary

<392>
Kenneth A. Nicely
Dept. of Biology;Western Kentucky University;Bowling Green, KY 42101
(502) 745-3606

COLLECTION DESCRIPTION: Tracheophytes
Specimens Only
PURPOSE OF COLLECTION: Research and teaching
SAMPLING LOCATION:
CITY: Bowling Green
COUNTY: Warren
STATE: Kentucky
PRESAMPLING CONDITIONS: Plants collected in natural habitats
DATES OF SAMPLING: 1965 to present
NUMBER OF SAMPLES: 5,000
TEMPORARY STORAGE PROCEDURES: Fumigation
DELAY BEFORE PERMANENT STORAGE: 2-3 months
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal herbarium cabinets
TEMPERATURE: Ambient
HUMIDITY: Ambient
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Open to all researchers at any time

<393>
S.G. Froiland
Dept. of Biology; Augustana College; Sioux Falls, SD 57102
(605) 336-4712

COLLECTION DESCRIPTION: Birds, mammals and terrestrial tracheophytes
Data and Specimens
PURPOSE OF COLLECTION: Teaching and Research
SAMPLING LOCATION:
STATE: South Dakota
GEOGRAPHICAL AREA: States bordering South Dakota
DATES OF SAMPLING: 1900 to present
NUMBER OF SAMPLES: Several hundred birds and mammals; 10,000 herbarium plants
AVAILABILITY OF SAMPLES AND/OR DATA: Available for study on the premises.

<394>
G.W. Wendel
P.O. Box 455; Timber & Watershed Laboratory: Parsons, WV 26287
(304) 478-2000

COLLECTION DESCRIPTION: Pteridophytes and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Research, identification of ground cover, competing vegetation etc.
SAMPLING LOCATION:
COUNTY: Tucker
STATE: West Virginia
PRESAMPLING CONDITIONS: Heavy logging in area 1900 to about 1970
DATES OF SAMPLING: Continuing
PERMANENT STORAGE CONDITIONS:
CONTAINER: Standard herbarium cabinet
STORAGE LIFE OF SAMPLE: Unknown
ADDITIONAL INFORMATION: We have data and location of area where samples were collected

<395>
Nonan V. Noste
Star Route 2; Institute of Forest Genetics; Rhinelander, WI 54501
(715) 362-7474

COLLECTION DESCRIPTION: Forest spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Voucher specimens for silviculture studies and phased out radiation of plant community studies
SAMPLING LOCATION:
CITY: Rhinlander
COUNTY: Onida
STATE: Wisconsin
PRESAMPLING CONDITIONS: Varied
DATES OF SAMPLING: 1971 to present
PERMANENT STORAGE PREPARATION: Intact Storage
RADIATION: Samples from irradiated plots
PERMANENT STORAGE CONDITIONS:
HUMIDITY: Room humidity
LIGHT EXPOSURE: Room temperature
AVAILABILITY OF SAMPLES AND/OR DATA: Both available

<396>

COMPONENT OF INTEREST: OTHER

<396>
Gaylord Parks
Placerville Nursery; 2375 Fruitridge Road; Camino, CA 95709
(916) 622-9600

FORMAL NAME OF COLLECTION: Forest Service Seed Bank
COLLECTION DESCRIPTION: Spermatophyte seed bank: evergreens
Data and Specimens
SCIENTIFIC NAME: Pinus ponderosa; P. jeffreyi; P. lambartiana; P. monticola; P. coulteri; Pseudotsuga menziesii; Pseudotsuga marcorarpa; Abies concolor; A. magnifica
PURPOSE OF COLLECTION: Reforestation of National Forest lands
SAMPLING LOCATION:
STATE: California
GEOGRAPHICAL AREA: Region 5, Forest Service, U.S. Dept. Agriculture
DATES OF SAMPLING: 1960 to present
DRYING: Air dry to less than 10% moisture content
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic bags
TEMPERATURE: -18 degrees C
HUMIDITY: None
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Contact Forest Service, USDA, 630 Sansome St., San Francisco, CA 94111

<397>
Monte Lloyd
Dept. of Zoology;University of Chicago;Chicago, IL 60637
(312) 753-2711

COLLECTION DESCRIPTION: Spermatophytes and arthropods
Data and Specimens
PURPOSE OF COLLECTION: Research in species diversity and spatial heterogeneity
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Costa Rica, O.T.S. Station at La Salva
PRESAMPLING CONDITIONS: Undisturbed tropical wet forest
DATES OF SAMPLING: 1972 to present
NUMBER OF SAMPLES: Hundreds - partially sorted
RESULTS OF ANALYSES: Dried samples of dead and living leaves ready for chemical analysis
SAMPLING METHODS: Kempson bowls (Kempson et al. 1963: Pedobiologia, 3:1-21) and hand collecting
TEMPORARY CONTAINER: Plastic or glass jars
TEMPORARY STORAGE PROCEDURES: Alcohol preservation
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Leaves
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Alcohol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Eventually available, not now

<398>
Addison D. Owings
Dept. of Agriculture; Southeastern Louisiana University; Hammond, LA 70401
(504) 549-2141

COLLECTION DESCRIPTION: Domestic spermatophyte collection
Specimens Only
PURPOSE OF COLLECTION: For student study and identification
SAMPLING LOCATION:
STATE: Louisiana
DATES OF SAMPLING: 1964 to present
NUMBER OF SAMPLES: 200
PERMANENT STORAGE CONDITIONS:
CONTAINER: Herbarium cabinets

<399>
Patricia H. Packard
Dept. of Biology; College of Idaho; Caldwell, ID 83605
(208) 459-5232

FORMAL NAME OF COLLECTION: Harold M. Tucker Herbarium
COLLECTION DESCRIPTION: Herbarium collection of pteridophytes and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Museum collection, evolution of flora
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Drainage of Middle Snake River; Salmon River
DATES OF SAMPLING: 1897 to present
NUMBER OF SAMPLES: 11 herbarium cases
SAMPLING METHODS: Normal herbarium techniques
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: PDB; only used occasionally
DRYING: Yes
OTHER: Elmer's glue for mounting

<400>
Robert J. Rodin
Dept. of Biological Science; California Polytechnic State University; San Luis Obispo, CA 93407
(805) 546-2192; Home: (805) 543-9244

COLLECTION DESCRIPTION: Gnetales collection slides
Data and Specimens
SCIENTIFIC NAME: Welwitschia mirabilis and Gnetum spp.
PURPOSE OF COLLECTION: Anatomical research for a comparative study of the species and their evolution and systematics
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Africa; India; South Asia; Oceania
DATES OF SAMPLING: 1960-1974
NUMBER OF SAMPLES: Approx. 3,000 microscope slides plus a hundred bottles of preserved specimens
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: 5.08 x 7.62 cm microscope slides containing roots, stems, leaves, cones, etc. mostly cut on a rotary microtome, and mostly stained by the Foster, Safranin-Fast green stains and mounted in permanent synthetic resins, stored at room temperature.
PERMANENT STORAGE CONDITIONS:
CONTAINER: Stored in 100 slide per box microscope slide boxes
AVAILABILITY OF SAMPLES AND/OR DATA: Available on exchange or loan basis
ADDITIONAL INFORMATION: Herbarium vouchers for many of the specimens are located in the Robert F. Hoover Herbarium. Probably the largest single slide collection of members of the Gnetales in the United States.

COMPONENT OF INTEREST: OTHER

<401>
Bryant Bannister
Laboratory of Tree-Ring Research;University of Arizona;Tucson, AZ 85721
(602) 884-1077

COLLECTION DESCRIPTION: Prehistoric and modern tree-ring samples
Data and Specimens
PURPOSE OF COLLECTION: Research laboratory study collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Southwest United States; Western North America; Worldwide
DATES OF SAMPLING: Collection started in early 1900's,; about 3000-4000 new samples added annually
NUMBER OF SAMPLES: Approx. 140,000 (100,000 prehistoric, 40,000 modern)
RESULTS OF ANALYSES: Wood and charcoal
SAMPLING METHODS: Excavation, specialized coring tools
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Study surfaces prepared by sanding and cutting
PERMANENT STORAGE CONDITIONS:
CONTAINER: Open shelves and cardboard boxes
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: By special arrangement only
PUBLICATIONS: Selected References in Dendrochronology. Laboratory of Tree-Ring Research, University of Arizona, 1950 - 1974.
ADDITIONAL INFORMATION: Precisely dated tree-ring chronologies of up to 8200 years in length are used as an index in the reconstruction of past environmental conditions and as a basis for accurately dating prehistoric structures and events. The 140,000 modern and prehistoric tree-rings. Samples constitute the largest collection of their kind in the world and serve as a unique resource for studies in such fields as archaeology, climatology, ecology, forestry, geology, geophysics, and hydrology; bibliography available.

<402>
A.R. Stage
Forestry Sciences Laboratory; 1221 South Main; Moscow, ID 83843
(208) 882-3557

COLLECTION DESCRIPTION: Spermatophytes
Specimens Only
PURPOSE OF COLLECTION: Identification reference
SAMPLING LOCATION:
STATE: Idaho; Washington
NUMBER OF SAMPLES: 250
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Yes
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal herbarium cabinet
STORAGE LIFE OF SAMPLE: 50 years

<403>
Edward C. Klostermeyer
Irrigated Agricultural Research and Ext. Ctr.;P.O. Box 30; Washington State University;Prosser, WA 99350
(509) 786-2226

COLLECTION DESCRIPTION: Herbarium of spermatophytes; collection of insects
Data and Specimens
PURPOSE OF COLLECTION: Research and Reference
SAMPLING LOCATION:
COUNTY: Benton; Yakima
STATE: Washington
DATES OF SAMPLING: Plants 1929 to present; insects 1947 to present
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Some insects in alcohol
DRYING: plants dried between blotters; insects pinned
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal
AVAILABILITY OF SAMPLES AND/OR DATA: Generally available for on-site study or loan to other locations

<404>
Gerald S. Strickler
Range and Wildlife Habitat Laboratory;C. Avenue and Gekeler Lane; Rt. 2 Box 2315; La Grande, OR 97850
(503) 963-7122; FTS (503) 221-0111

COLLECTION DESCRIPTION: Forest spermatophytes and pteridophytes
Data and Specimens
PURPOSE OF COLLECTION: Reference herbaria for Pacific N.W. Forest Service and for research laboratory voucher specimens
SAMPLING LOCATION:
STATE: Oregon; Washington; Idaho; California
GEOGRAPHICAL AREA: Pacific Northwest United States
PRESAMPLING CONDITIONS: Most specimens are from habitat on National Forest Lands
DATES OF SAMPLING: 1910 to present
AVAILABILITY OF SAMPLES AND/OR DATA: Loan of specimens to research organizations or institutions only.

<405>
Beryl B. Simpson
NHB-W-501; U.S. Museum of Natural History; Smithsonian Institution; Washington, DC 20560
(202) 381-5841

COLLECTION DESCRIPTION: Mesquite samples
Data and Specimens
COMMON NAME: Mesquite (two species)
PURPOSE OF COLLECTION: To look at geographical variation across a longitudinal gradient from Texas to Yuma
SAMPLING LOCATION:
STATE: Arizona; Texas
GEOGRAPHICAL AREA: Stations every 50 miles or so east west from Yuma, Ariz. across to El Paso Texas and a little farther south
DATES OF SAMPLING: July-Aug. 1972
NUMBER OF SAMPLES: 29 populations, 3-5 trees per population
RESULTS OF ANALYSES: Dried herbarium specimens
SAMPLING METHODS: Clippers and plant press
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Methyl chloride
DRYING: Yes
PERMANENT STORAGE CONDITIONS:
CONTAINER: Herbarium cases
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available

COMPONENT OF INTEREST: OTHER

<406>
Donald W. Woodard
Dept. of the Army; Coastal Engineering Research
Ctr.; 5201 Little Falls Road, N.W.; Washington,
DC 20016
(202) 325-7398

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Verification record, teaching collection for instruction of coastal engineers
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
DATES OF SAMPLING: 1973 to present
NUMBER OF SAMPLES: 300
AVAILABILITY OF SAMPLES AND/OR DATA: Upon request

<407>
James S. Jordan
Northeastern Forest Experiment Station; Forestry
Sciences Laboratory;P.O. Box 928;Warren, PA 16365
(814) 563-7587

COLLECTION DESCRIPTION: Herbarium collection of pteridophytes and aquatic and terrestrial spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Education and reference
SAMPLING LOCATION:
COUNTY: McKean; Warren; Forest; Elk
STATE: Pennsylvania
GEOGRAPHICAL AREA: Allegheny National Forest
DATES OF SAMPLING: 1935 - 1936; 1960 - 1974
NUMBER OF SAMPLES: 815 herbarium sheets representing 590 species
TEMPORARY CONTAINER: Herbarium cases, steel
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Napthalene flakes
DRYING: Air drying except in 1960, some low temperature oven drying
PERMANENT STORAGE CONDITIONS:
CONTAINER: Steel and paper
TEMPERATURE: 18 degrees C
LIGHT EXPOSURE: Dark except when in use
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Small quantities of seeds or other plant parts of certain specimens could be made available

<408>
Donald D. Ritchie
Dept. of Biology; Barnard College; 606 W 120 St.;
New York, NY 10027
(212) 280-5103

COLLECTION DESCRIPTION: Botanical collection of spermatophytes and fungi
Data and Specimens
PURPOSE OF COLLECTION: Teaching collection
SAMPLING LOCATION:
STATE: New York
DATES OF SAMPLING: 1890 - 1920
NUMBER OF SAMPLES: Approx. 3000 mounted herbarium sheets
PERMANENT STORAGE CONDITIONS:
CONTAINER: Herbarium cabinets
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<409>
Roger Q. Landers, Jr.
Dept. of Botany & Plant Pathology;Iowa State
University;Bessey Hall;Ames, IA 50010
(515) 294-3871

FORMAL NAME OF COLLECTION: Tallgrass prairie seed collection
COLLECTION DESCRIPTION: Seeds and fruiting structures of spermatophytes
Specimens Only
PURPOSE OF COLLECTION: Identification of seeds, reference collection
SAMPLING LOCATION:
STATE: Iowa
PRESAMPLING CONDITIONS: Plants grown in local conditions from wild sources
DATES OF SAMPLING: 1966 to 1972
NUMBER OF SAMPLES: 75
RESULTS OF ANALYSES: Seeds and attached parts
SAMPLING METHODS: Hand collected from living plants
TEMPORARY CONTAINER: Plastic envelopes
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: Room temperature
STORAGE LIFE OF SAMPLE: Years
AVAILABILITY OF SAMPLES AND/OR DATA: Available for use here

<410>
Carl H. Tubbs
Northern Hardwoods Laboratory; 806 Wright St.;
Marquette, MI 49855
(906) 225-1323

COLLECTION DESCRIPTION: Spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Vouchers for verifying plant identification in ecological surveys
SAMPLING LOCATION:
COUNTY: Marquette
STATE: Michigan
GEOGRAPHICAL AREA: McCormick Research Natural Area
PRESAMPLING CONDITIONS: Sampling based on forest and land feature types
DATES OF SAMPLING: Oct. to Nov. 1970; June to Oct. 1971; June to July 1972
NUMBER OF SAMPLES: 100

<411>
W.A. Feder
Suburban Experimental Station; University of
Massachusetts; 240 Beaver; Waltham, MA 02154
(617) 891-0650

COLLECTION DESCRIPTION: Duckweed; Air samples
Data and Specimens
COMMON NAME: Duckweed
PURPOSE OF COLLECTION: Research
SAMPLING METHODS: Ozone data-continuous recording using mast ozone meter

COMPONENT OF INTEREST: OTHER

<412>
William S. Sipple
Maryland Dept. Natural Resources; Water Resources
Administration; Tawes State Office Building;
Annapolis, MD 21401
(301) 267-5877

COLLECTION DESCRIPTION: Tidewater vascular plants
Data and Specimens
PURPOSE OF COLLECTION: Documentation of species diversity; marshes research
SAMPLING LOCATION:
    STATE: Maryland
    GEOGRAPHICAL AREA: Tidewater regions
DATES OF SAMPLING: June 1971 to present
NUMBER OF SAMPLES: Less than 100
TEMPORARY CONTAINER: Plant press
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Herbarium
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<413>
James F. Chaplin
USDA-ARS-Southern Region; Tobacco Research
Laboratory; Oxford, NC 27565
(919) 693-5151

COLLECTION DESCRIPTION: Tobacco seeds
Specimens Only
SCIENTIFIC NAME: Nicotina tabacum L. and all Nicotiana species
COMMON NAME: Tobacco
PURPOSE OF COLLECTION: Maintain germplasm for use in commercial tobacco research
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1930 to present
NUMBER OF SAMPLES: Approx. 1550
SAMPLING METHODS: Seed collection
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    TEMPERATURE: 4.5 degrees C, regulated cold room
    HUMIDITY: Low humidity, approx. 20% RH
AVAILABILITY OF SAMPLES AND/OR DATA: Seed available to all researchers

<414>
John E. Deturck
Dept. of Biology; Cabrini College; King of
Prussia Rd.; Radnor, PA 19087
(215) 687-2100 ext.67

COLLECTION DESCRIPTION: Woodland deciduous spermatophytes
Data and Specimens
SCIENTIFIC NAME: Oenothera specimens, subgenus Kneiffia
PURPOSE OF COLLECTION: Teaching; Research
SAMPLING LOCATION:
    CITY: Radnor
    COUNTY: Delaware
    STATE: Pennsylvania
NUMBER OF SAMPLES: Approx 300
AVAILABILITY OF SAMPLES AND/OR DATA: Yes - some specimens; not mounted

<415>
W.R. Harms
Forestry Sciences Laboratory; 334 Meeting St.;
Room 620, Federal Bldg.; Charleston, SC 29403
(803) 577-4171, ext. 271

FORMAL NAME OF COLLECTION: Santee Herbarium Collection, Moncks Corner, SC
COLLECTION DESCRIPTION: Terrestrial spermatophytes
Specimens Only
PURPOSE OF COLLECTION: Reference
SAMPLING LOCATION:
    STATE: South Carolina
    GEOGRAPHICAL AREA: Lower coastal plain
NUMBER OF SAMPLES: Approx. 300 species
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Standard herbarium cabinet
AVAILABILITY OF SAMPLES AND/OR DATA: On premises examination

<416>
Vernon E. Gracen, Jr.
Dept. of Plant Breeding;413 Bradfield
Hall;Cornell University;Ithaca, NY 14850
(607) 256-3236

FORMAL NAME OF COLLECTION: Maize Pest Resistant Nursery
COLLECTION DESCRIPTION: Maize seed collection
Data and Specimens
SCIENTIFIC NAME: Zea mays
COMMON NAME: Maize seed, dent, flint, sweet and popcorns
PURPOSE OF COLLECTION: Maintenance of diversity of maize germplasm adapted to Northeastern U.S.
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide
NUMBER OF SAMPLES: Approx. 2,500 families
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    TEMPERATURE: Below 40 degree C
    HUMIDITY: Below 50% RH
STORAGE LIFE OF SAMPLE: 5 years plus
AVAILABILITY OF SAMPLES AND/OR DATA: Samples available - limited by supply of seed for some families

<417>
David J. De Laubenfels
Dept. of Geography; 343 H.B. Crouse Hall;
Syracuse University; Syracuse, NY 13210
(315) 423-2606

COLLECTION DESCRIPTION: Herbarium specimens of conifers
Specimens Only
SCIENTIFIC NAME: Conifeae
COMMON NAME: Conifers
PURPOSE OF COLLECTION: Taxonomic research
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide; Asia; Pacific Ocean; North America
DATES OF SAMPLING: 1953 to present
NUMBER OF SAMPLES: 1,000
TEMPORARY CONTAINER: Herbarium cases; boxes
TEMPORARY STORAGE PROCEDURES: Pressed
PERMANENT STORAGE PREPARATION: Intact Storage
    OTHER: Dried
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Herbarium cases
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: By special arrangements

<418>

COMPONENT OF INTEREST: OTHER

<418>
L.H. Durkee
Dept. of Biology; Grinnel College; Grinnell, IA 50112
(515) 236-6181, ext. 490

COLLECTION DESCRIPTION: Angiosperms, conifers, ferns, and cryptogams
Data and Specimens
SAMPLING LOCATION:
COUNTY: Jasper; Poweshiek
STATE: Iowa
GEOGRAPHICAL AREA: North America; Europe; Asia; Central America
PRESAMPLING CONDITIONS: Habitat description available
NUMBER OF SAMPLES: 15,000
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Yes
PERMANENT STORAGE CONDITIONS:
CONTAINER: Pasted on sheets
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Study purposes only; cannot be destroyed

<419>
Robert H. Andrew
Dept. of Agronomy; University of Wisconsin; Madison, WI 53706
(608) 262-0377

COLLECTION DESCRIPTION: Sweet corn seeds
Specimens Only
COMMON NAME: Corn

<420>
H.A. Fribourg
Dept. of Plant & Soil Science;P.O. Box 1071;University of Tennessee;Knoxville, TN 37916
(615) 974-7161

COLLECTION DESCRIPTION: Forage plants; soil samples
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
STATE: Tennessee
DATES OF SAMPLING: 1958 to present
NUMBER OF SAMPLES: 1 to 3000
TEMPORARY CONTAINER: Plastic; Glass; Paper bags; Cloth
TEMPORARY STORAGE PROCEDURES: Most ambient room - some deep freeze
DELAY BEFORE PERMANENT STORAGE: 1-10 weeks
PERMANENT STORAGE PREPARATION: Intact Storage; Homogenization
DRYING: 70 degrees C
OTHER: Samples usually dried at 70 degrees C, ground and stored dry. A few are frozen and kept at -15 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic; Glass
TEMPERATURE: Most ambient; some at -15 degrees C
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: To be negotiated

<421>
Grant A. Harris
Dept. of Forestry;Washington State University;Pullman, WA 99163
(509) 335-5584

COLLECTION DESCRIPTION: Terrestrial spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Research and teaching
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Western United States
DATES OF SAMPLING: 1915 to present
NUMBER OF SAMPLES: Approx. 3000
RESULTS OF ANALYSES: Above ground plant parts
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: In plant preses
PERMANENT STORAGE CONDITIONS:
CONTAINER: Herbarium cabinets
TEMPERATURE: 18 to 24 degrees C
LIGHT EXPOSURE: Dark
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<422>
Robert Steele
316 E Myrtle Street; Boise, ID 83706
FTS (208) 342-2532; (208) 342-2711, ext. 2532

FORMAL NAME OF COLLECTION: Intermountain Forest and Range Experiment Station Herbarium
COLLECTION DESCRIPTION: Herbarium collection of pteridophytes and spermatophytes of intermountain west
Data and Specimens
PURPOSE OF COLLECTION: Reference collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Intermountain west; United States
DATES OF SAMPLING: From early 1900's to present
NUMBER OF SAMPLES: Approx. 5,000
SAMPLING METHODS: Standard botanical procedures
PERMANENT STORAGE CONDITIONS:
CONTAINER: Herbarium cabinets
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens available for loan to any institution

<423>
E.H. McIlvain
U. S. Southern Great Plains; Field Station; P.O. Box 249; Woodward, OK 73801
(405) 256-7449

COLLECTION DESCRIPTION: Collection of native grasses and foods of the Great Plains
Specimens Only
PURPOSE OF COLLECTION: Taxonomy
SAMPLING LOCATION:
STATE: Kansas; Oklahoma; Texas
GEOGRAPHICAL AREA: Great Plains
PRESAMPLING CONDITIONS: Rangeland grazed by cattle. Pre-atomic and pre-pesticide samples
DATES OF SAMPLING: 1934 to 1944
NUMBER OF SAMPLES: Approx. 500
RESULTS OF ANALYSES: Root crowns, stems, leaves, flowers, seeds
SAMPLING METHODS: Field collection dried and pressed between blotters
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Room temperature in laboratory
PERMANENT STORAGE CONDITIONS:
CONTAINER: Manila folders in wooden cabinets
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Small parts could be removed for analysis. Would prefer not to destroy or ship specimens.

COMPONENT OF INTEREST: OTHER

<424>
M.J. Samuel
High Plains Grasslands Research Station; P.O. Box 1087; Cheyenne, WY 82001
(307) 778-2220, ext 2434; FTS (307) 778-2434

COLLECTION DESCRIPTION: Seed collection
Specimens Only
PURPOSE OF COLLECTION: Breeding stock for variety improvement
SAMPLING LOCATION:
CITY: Cheyenne
COUNTY: Laramie
STATE: Wyoming
DATES OF SAMPLING: 1939-1972
SAMPLING METHODS: Field selections of plants, fermentation of pulp to obtain clean seed.
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Dried in air or up to 150 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Galvinized metal
TEMPERATURE: Room temperature
HUMIDITY: None
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: No; possible clearance from higher authority
ADDITIONAL INFORMATION: The collection is a seed collection remaining from many years of a breeding program for tomatoes adapted to the short, cool growing season of this region. The main bulk is seed from 1939 to 1972. There is some seed (tomato) from previous years. There is also seed of cucumbers and squash-pumpkin for several years.

<425>
Robert F. Buttery
USDA Forest Service;Building 85;Denver Federal Center; Denver, CO 80225
(303) 234-4011

FORMAL NAME OF COLLECTION: Regional Herbarium
COLLECTION DESCRIPTION: Terrestrial spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Plant identification and relationship to ecosystems
SAMPLING LOCATION:
STATE: Colorado; Wyoming; South Dakota; Nebraska; Kansas
DATES OF SAMPLING: 1905 to present
NUMBER OF SAMPLES: Approx. 1500
SAMPLING METHODS: Shovel
TEMPORARY CONTAINER: Plant press and/or vasculum
TEMPORARY STORAGE PROCEDURES: Plants pressed immediately or kept moist in vasculum until end of day at which time they were pressed
DELAY BEFORE PERMANENT STORAGE: 1-30 days
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: In plant press
PERMANENT STORAGE CONDITIONS:
CONTAINER: Sealed herbarium cabinets (steel)
TEMPERATURE: None
LIGHT EXPOSURE: None
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Data and specimens available. Samples not available

<426>
Charles R. Bryant
Bureau of Sport Fisheries & Wildlife;Route 2, Box 511;Monte Vista, CO 81144
(303) 852-2435

COLLECTION DESCRIPTION: Terrestrial spermatophytes
Specimens Only
PURPOSE OF COLLECTION: Identification of refuge plants
SAMPLING LOCATION:
CITY: Monte Vista
COUNTY: Rio Grande
STATE: Colorado
GEOGRAPHICAL AREA: Monte Vista National Wildlife Refuge and areas
DATES OF SAMPLING: July 1, 1953-July 19, 1968
NUMBER OF SAMPLES: 58
SAMPLING METHODS: Generally pulled by roots, during flowering stage when possible
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Air dried and pressed flat
PERMANENT STORAGE CONDITIONS:
CONTAINER: Mounted on cardboard and covered with clear plastic sheeting
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Dark
AVAILABILITY OF SAMPLES AND/OR DATA: Available to U.S. Fish and Wildlife Service personnel and to outside researchers doing refuge orientated research in San Luis Valley.

<427>
Thomas A. Leege
Idaho Fish and Game Dept.; P.O. Box 398; Kamiah, ID 83536
(208) 935-2276

COLLECTION DESCRIPTION: Shrub seeds
Data and Specimens
SCIENTIFIC NAME: Seeds from various shrub species: Philadelphus, Cornus, Ceanothus, Prunus, Sambucus, Rhamnus
PURPOSE OF COLLECTION: Identification of random seeds in bird crops, soil samples, etc.
SAMPLING LOCATION:
COUNTY: Idaho
STATE: Idaho
GEOGRAPHICAL AREA: Lochsa River Drainage
PRESAMPLING CONDITIONS: Areas burned by wildfire in 1934
DATES OF SAMPLING: 1966 - 1972
NUMBER OF SAMPLES: 15
SAMPLING METHODS: Seeds picked from shrubs or soil samples
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic; Glass vials
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Available upon request

<428>

COMPONENT OF INTEREST: OTHER

<428>
Nicholas W. Kramer
Sorghum Research; Acco Seed; Box 1630; Plainview,
TX 79072
(806) 652-3794

COLLECTION DESCRIPTION: Sorghum seed collection
Specimens Only
SCIENTIFIC NAME: Sorghum bicolor (L.) Moench,
COMMON NAME: Sorghum
PURPOSE OF COLLECTION: Sorghum breeding
SAMPLING LOCATION:
    CITY: Lockney
    COUNTY: Floyd
    STATE: Texas
    GEOGRAPHICAL AREA: Also includes some compariable samples of same genotypes for some years from Leoti, Kansas; Lexington, Illinois; and Lower Rio Grande Valley of Texas
DATES OF SAMPLING: 1960 to present, with a few older samples.
NUMBER OF SAMPLES: Thousands
RESULTS OF ANALYSES: Seed or grain
SAMPLING METHODS: Individual plants or bulks of individual plants of known genotypes.
TEMPORARY STORAGE PROCEDURES: Normal warehouse storage
PERMANENT STORAGE PREPARATION: Intact Storage
    FUMIGATION: Captan and dieldrin and/or DDT moderately heavy
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Cloth; paper bags
    TEMPERATURE: Approx. 15 degrees C
    HUMIDITY: 50%
    LIGHT EXPOSURE: Dark
    STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Subject to supply and quantities desired

<429>
Joe D. Baldridge
Agricultural Experiment Sta.; University of
Missouri; Columbia, MO 65201
(314) 882-6534

COLLECTION DESCRIPTION: Birdsfoot trefoil seeds
Specimens Only
SCIENTIFIC NAME: Lotus corniculatus
COMMON NAME: Forage legume "birdsfoot trefoil"
PURPOSE OF COLLECTION: Plant breeding and genetic germplasm preservation.
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: United States
DATES OF SAMPLING: 1963 to 1974
NUMBER OF SAMPLES: Ten distinct entities
SAMPLING METHODS: Seed harvest
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Cloth bags
    TEMPERATURE: Air conditioned
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Seed, available

<430>
John F. Shroder, Jr.
Dept. of Geography-Geology;University of Nebraska
at Omaha; Omaha, NB 68101
(402) 554-2662

COLLECTION DESCRIPTION: Tree-ring samples; bedrock
Data and Specimens
PURPOSE OF COLLECTION: Tree-ring analysis
SAMPLING LOCATION:
    CITY: Escalante
    COUNTY: Utah
    GEOGRAPHICAL AREA: Escalante-Aquarius Plateau
DATES OF SAMPLING: 1973 to present
NUMBER OF SAMPLES: 100
RESULTS OF ANALYSES: Cores and slabs
SAMPLING METHODS: Core sampling with a Swedish Increment Borer
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<431>
Frederick W. Fuess
Dept. of Agriculture; Turner Hall 124 Illinois
State University; Normal, IL 61761
(309) 436-7076

COLLECTION DESCRIPTION: Samples and seeds for crop, weed, and ornamental terrestrial spermatophytes
PURPOSE OF COLLECTION: Indentification for class work
SAMPLING LOCATION:
    STATE: Illinois
DATES OF SAMPLING: 1924 to present
NUMBER OF SAMPLES: Several hundred
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: Room temperature
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Riker mounts & bottles
    TEMPERATURE: Room temperature
    HUMIDITY: None
    LIGHT EXPOSURE: Reduced
    STORAGE MEDIA: Ambient air
AVAILABILITY OF SAMPLES AND/OR DATA: All information is available - some samples can be split

<432>
James D. Maguire
Washington State University; WSU Seed
Laboratory; Johnson Hall; Pullman; WA 99163
(509) 335-3627

COLLECTION DESCRIPTION: Seeds of wild and domestic terrestrial gymnosperms and angiosperms
Data and Specimens
PURPOSE OF COLLECTION: Identification and teaching
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Western United States
DATES OF SAMPLING: 1900 to present
SAMPLING METHODS: Seed sample & field selection
TEMPORARY CONTAINER: Glass vials with stoppers located in airconditioned laboratory
    OTHER: Mechanical threshing
AVAILABILITY OF SAMPLES AND/OR DATA: Observation only; limited amounts
ADDITIONAL INFORMATION: Laboratory also possesses selected species from cultivated crops grown at central WA semi-arid site, dating 1917 to date.

COMPONENT OF INTEREST: OTHER

<433>
A.A. Beetle
P.O. Box 3354; University Station; Laramie, WY
82071
(307) 766-4236

COLLECTION DESCRIPTION: Wild and domestic
terrestrial grasses
Data and Specimens
SCIENTIFIC NAME: Gramineae
COMMON NAME: Grasses
PURPOSE OF COLLECTION: Research and instructional
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1946 to present
NUMBER OF SAMPLES: 30,000
SAMPLING METHODS: Random selection
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Plant press
PERMANENT STORAGE CONDITIONS:
CONTAINER: Standard herbarium cases
STORAGE LIFE OF SAMPLE: Indefinitely
AVAILABILITY OF SAMPLES AND/OR DATA: Both samples
and data available

<434>
E.W. Belcher
Eastern Tree Seed Laboratory, State & Private
Forestry; Box 819; Macon, GA 31202
(912) 744-3311

COLLECTION DESCRIPTION: Southern pine seeds
Data and Specimens
PURPOSE OF COLLECTION: Service testing sample
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
PRESAMPLING CONDITIONS: Little known
DATES OF SAMPLING: 1970 to present
SAMPLING METHODS: Unknown
DELAY BEFORE PERMANENT STORAGE: Very short
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -7 degrees C
RADIATION: X-ray 5 r
FUMIGATION: None
DRYING: 6% moisture
PERMANENT STORAGE CONDITIONS:
CONTAINER: Sealed glass jars
TEMPERATURE: -7 degrees C
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Limited
ADDITIONAL INFORMATION: Radiographic and
germination analysis

<435>
R.R. Bridge
Agricultural & Forestry Exp. Sta.; Delta Branch
Exp. Sta.; P.O. Box 197; Stoneville, MS 38776
(601) 686-7281

FORMAL NAME OF COLLECTION: Stoneville Regional
Collection of Upland Cotton
COLLECTION DESCRIPTION: Cotton samples screened
for desirable characteristics: disease and insect
resistance; earliness; fiber
Data and Specimens
SCIENTIFIC NAME: Gossypium
COMMON NAME: Cotton
PURPOSE OF COLLECTION: Research standards, source
of plant breeding materials
SAMPLING LOCATION:
CITY: Stoneville
COUNTY: Washington
STATE: Mississippi
GEOGRAPHICAL AREA: Cotton belt of United
States
DATES OF SAMPLING: 1900 to present
NUMBER OF SAMPLES: 1000
SAMPLING METHODS: Samples are sent by cotton
breeders and other researcher from throughout the
U.S.
TEMPORARY STORAGE PROCEDURES: Seed samples are
kept in pint fruit jars at 4.5 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Pint fruit jars
TEMPERATURE: 4.5 degrees C
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Approximately 10 years
AVAILABILITY OF SAMPLES AND/OR DATA: Available on
request

<436>
LeRoy C. Johnson
Institute of Forest Genetics; Placeville, CA
95667
(916) 622-1225

COLLECTION DESCRIPTION: Conifer collection, pines
and firs
Specimens Only
SCIENTIFIC NAME: Pinus; Abies
COMMON NAME: Pines; Firs
PURPOSE OF COLLECTION: Reference collection for
these two conifer genera, assembled as part of
genetics program throughout range of two genera
NUMBER OF SAMPLES: Approx. 3000
SAMPLING METHODS: Standard herbarium techniques
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Standard herbarium air drying
AVAILABILITY OF SAMPLES AND/OR DATA: Available by
special arrangement

<437>
G. Douglas Barbe
1220 N. Street; Sacramento, CA 95814
(916) 445-4521

COLLECTION DESCRIPTION: Terrestrial and aquatic
spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Weeds of California;
reference collection for identification; weed
specimens of record
SAMPLING LOCATION:
STATE: California
DATES OF SAMPLING: 50 years; majority within past
20 years
NUMBER OF SAMPLES: 20,000
SAMPLING METHODS: Standard botanical collecting
methods
TEMPORARY STORAGE PROCEDURES: Conventional
herbarium procedures, fumigation with methyl
bromide for insect infestation control, no naptha
or paradichlorobenzene used
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Methyl bromide
DRYING: Dried
PERMANENT STORAGE CONDITIONS:
CONTAINER: Steel herbarium cabinets
TEMPERATURE: Room temperature
HUMIDITY: Room humidity
LIGHT EXPOSURE: Dark; minimum exposure to
indoor lighting
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite

<438>
Leroy C. Johnson
USDA; U.S. Forest Service; Institute of Forest Genetics; 2480 Carson Road; Placeville, CA 95067
(916) 622-1225

COLLECTION DESCRIPTION: Forest spermatophytes and seeds
Data and Specimens
SCIENTIFIC NAME: Pinus; Abies; Cupressus; Pseudotsuga
PURPOSE OF COLLECTION: Forest genetics research
SAMPLING LOCATION:
STATE: California
GEOGRAPHICAL AREA: Western United States
DATES OF SAMPLING: 1930 to 1974
NUMBER OF SAMPLES: Hundreds
STORAGE LIFE OF SAMPLE: Varies with species; 1-50 years
AVAILABILITY OF SAMPLES AND/OR DATA: Data and some seed available for research
ADDITIONAL INFORMATION: We regularly collect and store tree seed for research purposes. Some exotic seed in seed bank but mostly western U.S. tree species. Location of most parent trees fully documented.

<439>
Desmond D. Dolan
USDA,ARS;Regional Plant Introduction Station; Room 201 Sturtevant Hall;N.Y. State Agriculture Experiment Station;Geneva, NY 14456
(315) 787-2244

COLLECTION DESCRIPTION: Seed collection
Data and Specimens
COMMON NAME: Plant introductions of fruits, vegetables, ornamentals, forage legumes, forage grasses, and lawn grasses
PURPOSE OF COLLECTION: To provide germplasm and parent materials for cooperating plant breeders and for geneticists
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
PRESAMPLING CONDITIONS: Explorers, notes on each collection are included in the plant introduction inventory prepared by the above laboratory. This plant introduction laboratory now consists of 24 volumes beginning with P.I. number 1 in 1898 and continuing to P.I. number 350000 in 1974.
DATES OF SAMPLING: 1900 to 1974
NUMBER OF SAMPLES: 20, 000
TEMPORARY CONTAINER: Either spear-point or metal fold envelopes measuring 5" x 9'
TEMPORARY STORAGE PROCEDURES: Storage is automatically monitored using a Honeywell recorder with records simultaneously for both temperature and relative humidity
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Air-dried at 43 degrees C
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: Refrigeration by cold air blast at 0.54 degrees C
HUMIDITY: By a silica gel dryomatic with capacity 2000 cfm; 30% RH
STORAGE LIFE OF SAMPLE: Varies from 3 years to 30 years --Seed samples are regrown and revitalized when percentage germination drops to 50%
AVAILABILITY OF SAMPLES AND/OR DATA: Available to all plant breeders and geneticists, plant pathologists and entomologists, horticulturists and agronomists in the 50 states of U.S.
ADDITIONAL INFORMATION: Germplasm is provided to plant breeders and geneticists in packets of approx. 100 seeds.

<440>
Robert Langford
U.S. Dept of Agriculture;Southern Regional Plant Introduction Sta.;Experiment, GA 30212
(404) 227-9471, ext. 2[illegible]7

COLLECTION DESCRIPTION: Seed samples
Data and Specimens
PURPOSE OF COLLECTION: Source of germplasm used in plant breeding
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1898-1974
NUMBER OF SAMPLES: 28,000
SAMPLING METHODS: Samples were collected wherever they were found
TEMPORARY CONTAINER: Plastic bags; manila envelopes
TEMPORARY STORAGE PROCEDURES: Seed are placed in container; container is then folded closed but not sealed
DELAY BEFORE PERMANENT STORAGE: 2 to 3 days
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Seeds are dried 48 hours at 35 - 37.7 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic bags; manila envelopes
TEMPERATURE: 4.4 - 7.3 degrees C
HUMIDITY: 50% relative humidity
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Samples range in age from 1 to 20 years
AVAILABILITY OF SAMPLES AND/OR DATA: Small samples are made available to outside researchers upon written request
PUBLICATIONS: Catalogue of Seed (Sorghum). Southern Regional Plant Introduction Station, USDA, Experiment, GA; Regional Project S-9, May 1974; (Warm Season Grasses) June 1973; (Summer Legumes and Misc. Spp.) Jan. 1972; (Pearlmillet) April 1971; (Peanuts, Arachis spp.) May 1974; (Vine Crops: Citrullus, Cucumis, Cucurbita, Lagenaria, Luffa) March 1974; (Winter Legumes) February 1969; (Table Legumes: Cicer, Phaseolus, Vigna) April 1972; (Peppers, Capsicum spp.) March 1974.
ADDITIONAL INFORMATION: Species list available

<441>
John B. Funderberg
N.C. Museum of Natural History;N. Salisbury St.; P.O. Box 27647;Raleigh, NC 27611
(919) 829-7451

COLLECTION DESCRIPTION: Aquatic, marine and terrestrial vertebrates and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Museum research and exhibit collection
SAMPLING LOCATION:
STATE: North Carolina
GEOGRAPHICAL AREA: United States
NUMBER OF SAMPLES: Thousands
PERMANENT STORAGE CONDITIONS:
CONTAINER: Generally glass, mostly glass lids
TEMPERATURE: Air conditioning
LIGHT EXPOSURE: Minimal
STORAGE MEDIA: Some formaldehyde, some ethanol, others special preservatives
AVAILABILITY OF SAMPLES AND/OR DATA: Some, but few, specimens available for research which will result in their destruction. Few limitations on availability to qualified researchers.
ADDITIONAL INFORMATION: Our holdings in animal specimens are extensive and further inquiry about specific forms needed for research should be addressed to the Director.

COMPONENT OF INTEREST: OTHER

<442>
George H. Allen; Robert A. Behrstock
Dept. of Fisheries; Humboldt State University;
Arcata, CA 95521
(707) 826-3448, 826-3954

COLLECTION DESCRIPTION: Aquatic and marine fish, crustaceans, and mollusks
Data and Specimens
PURPOSE OF COLLECTION: Museum collection; teaching; environmental study; national park survey; ecological baseline data; pollution studies
SAMPLING LOCATION:
    CITY: Arcata
    STATE: California
    GEOGRAPHICAL AREA: Humboldt Bay; Humboldt Coast; Mexico; Asia; Africa; Redwood National Forest; Eastern United States
PRESAMPLING CONDITIONS: Pulp mills and associated wastes outside Humboldt Bay
DATES OF SAMPLING: Late 1940s to present
NUMBER OF SAMPLES: Approx. 100 with extensive data; approx. 2,000 with lesser data
SAMPLING METHODS: Seine, Fykenet, Otter trawl, electrofishing, rotenone, dipnet, hook & line, mechanical grab, throw net, plankton net, midwater trawl, spear, fish trap
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Formalin solution, ethanol, isopropyl some with shell ionol cp 40 antioxidant, 5 to 10 percent
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass; polyethylene; styrene crockery
    TEMPERATURE: Room temperature
    LIGHT EXPOSURE: Overhead fluorescent, Mon-Fri, usually 9-5 o'clock
    STORAGE MEDIA: 5-10% sol. formalin; air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: All materials available for loan on request
ADDITIONAL INFORMATION: Extensive trawl data and specimens from Humboldt Bay 1960 - 1970 including material on both fish and invertebrate population structure and distribution. Special fish materials include fossils, skeletal preps (less than 10) some pathological materials, hybrids, some cleared and stained materials (less than 20) specimens in antioxidant preservative, oxidation pond fauna, over 3000 juvenile fishes collected in the Gulf of California, most Calif. coastal and inland forms represented; some larval fishes - several hundred;ASU-Seagrant aquaculture study at city of Arcata oxidation pond. Species list available

<443>
George T. Baxter; Kenneth Diem; Jack Turner
Department of Zoology; University of Wyoming;
Laramie, WY 82070
(307) 766-4207

COLLECTION DESCRIPTION: Aquatic and terrestrial vertebrates and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
    STATE: Wyoming
    GEOGRAPHICAL AREA: United States
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Formaldehyde and alcohol
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass and plastic jars
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<444>
Walter C. Roddy
Tyler State College;100 E. Berth;Tyler, TX 75701
(214) 595-0711

COLLECTION DESCRIPTION: Small mammals and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
    STATE: Texas
TEMPORARY STORAGE PROCEDURES: Cyanide, alcohol, or formaldehyde used for killing specimens
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: New upper level institution, collections for teaching and research just beginning

<445>
Charles Woods
Dept. of Zoology; University of
Vermont;Burlington, VT 05401
(802) 656-2922

COLLECTION DESCRIPTION: Aquatic and terrestrial vertebrates and invertebrates; bird eggs
Data and Specimens
PURPOSE OF COLLECTION: Museum Collection
SAMPLING LOCATION:
    STATE: Vermont
    GEOGRAPHICAL AREA: Eastern United States
NUMBER OF SAMPLES: 3000 mammals, 1000 birds, 500 reptiles and amphibians
TEMPORARY STORAGE PROCEDURES: Frozen
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: Skeletons
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Alcoholic, formalin, museum skin & whole mounts in museum cases
    STORAGE MEDIA: Air, alcohol, formalin
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: On request at our location

<446>
A.L. Gennaro
Natural History Museum; Eastern New Mexico
University; Portales, NM 88130
(505) 562-2723

COLLECTION DESCRIPTION: Fish, amphibians, reptiles, birds, mammals, and insects
Data and Specimens
PURPOSE OF COLLECTION: Geographic distribution of biota in Eastern New Mexico, reference for ecology studies
SAMPLING LOCATION:
    STATE: New Mexico
DATES OF SAMPLING: 1966 to present
SAMPLING METHODS: Traps and shooting
TEMPORARY CONTAINER: Fumigated steel cases for furred animals; preservatives for fish, amphibians, and reptiles
PERMANENT STORAGE PREPARATION: Intact Storage
    FUMIGATION: Carbon disulfide
PERMANENT STORAGE CONDITIONS:
    TEMPERATURE: Room temperature
    HUMIDITY: Ambient
    LIGHT EXPOSURE: Normal daylight
    STORAGE MEDIA: Alcohol and fumigated air
AVAILABILITY OF SAMPLES AND/OR DATA: All available

<447>

COMPONENT OF INTEREST: OTHER

<447>
C.F. Dawson
Gulf Coast Research Lab;P.O. Box AG;Ocean
Springs, MS 39564
(601) 875-2244

COLLECTION DESCRIPTION: Marine vertebrates and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Systematic research collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Gulf of Mexico; Caribbean Sea
DATES OF SAMPLING: 1960 to present
NUMBER OF SAMPLES: Approx 5,000
RESULTS OF ANALYSES: Mainly fishes and macroinvertebrates
SAMPLING METHODS: Various types fishing gear
TEMPORARY CONTAINER: Glass containers
TEMPORARY STORAGE PROCEDURES: 10% formalin
DELAY BEFORE PERMANENT STORAGE: Usually less than 6 weeks
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass jars
TEMPERATURE: 75 degrees C approx
LIGHT EXPOSURE: Intermittent florescent
STORAGE MEDIA: 70% ETOH
AVAILABILITY OF SAMPLES AND/OR DATA: Data available

<448>
Hugh A. Swingle
Curator; Alabama Marine Resources Lab.; Box 188;
Dauphin Island, AL 36528
(205) 861-2882

COLLECTION DESCRIPTION: Marine and terrestrial vertebrates and invertebrates including fish, reptiles, amphibians, and crustaceans
Data and Specimens
PURPOSE OF COLLECTION: Museum reference collection
SAMPLING LOCATION:
STATE: Alabama
DATES OF SAMPLING: 1967 to present
NUMBER OF SAMPLES: 1050
SAMPLING METHODS: Trawl, seine
TEMPORARY CONTAINER: Glass
TEMPORARY STORAGE PROCEDURES: 5% formalin preservative
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formalin 5%
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
STORAGE MEDIA: Formaldehyde
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Data available, specimens available only on loan

<449>
William D. Anderson, Jr.
Grice Marine Biological Lab.; College of
Charleston; 205 Fort Johnson; Charleston, SC
2[illegible]12
(803) 795-3716

COLLECTION DESCRIPTION: Fish and marine invertebrates, mainly crustaceans
Data and Specimens
PURPOSE OF COLLECTION: Reference, teaching, and research
SAMPLING LOCATION:
STATE: South Carolina; Florida; Georgia
GEOGRAPHICAL AREA: Primarily from estuarine and coastal waters of South Carolina, but considerable material from continental shelf and slope from North Carolina to central Florida; other misc. collections from numerous localities
DATES OF SAMPLING: June, 1952 to present
NUMBER OF SAMPLES: 6,000--fishes
SAMPLING METHODS: Collections by trawl; dredge; seine; dipnet; trap; hook and line; ichthyicides; plankton, neuston, and nekton nets
TEMPORARY CONTAINER: Plastic or glass
TEMPORARY STORAGE PROCEDURES: Initially in 5 or 10% buffered formalin
DELAY BEFORE PERMANENT STORAGE: Usually one week, sometimes several months
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 10% buffered formalin for adults and juveniles, 5% for larvae
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass, plastic, stainless steel, or galvanized iron
TEMPERATURE: Inadequate--probably ranges from 18-29 degrees C
HUMIDITY: None
LIGHT EXPOSURE: Dark
STORAGE MEDIA: 50% isopropyl alcohol or 70% ethyl alcohol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Data on request; Specimens on loan

<450>
Robert R. St[illegible]y
Skidaway Institute of Oceanography; P.O. Box
13687; 55 West Bluff Road; Savannah, GA 31406
(912) 352-1631

COLLECTION DESCRIPTION: Fish and marine invertebrates
Specimens Only
PURPOSE OF COLLECTION: Reference collection
SAMPLING LOCATION:
STATE: Georgia
GEOGRAPHICAL AREA: North Atlantic Ocean; Gulf of Mexico
DATES OF SAMPLING: 1969 to present
NUMBER OF SAMPLES: Approx. 300
RESULTS OF ANALYSES: Whole animals
SAMPLING METHODS: Various - rod and reel, traps, nets
TEMPORARY CONTAINER: Glass
TEMPORARY STORAGE PROCEDURES: Formalin (10%) for several days
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Primarily isopropyl alcohol - 40% reagent grade
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: None
HUMIDITY: Air conditioned ambient
LIGHT EXPOSURE: Not limited
STORAGE MEDIA: 40% isopropyl or 95% ethyl alcohol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available for use in identifying local organisms - visitors primarily

COMPONENT OF INTEREST: OTHER

<451>
Lynn M. Croshaw
Dept. of Biology; Francis Marion College;
Florence, SC 29501
(803) 669-4121, ext. 344

COLLECTION DESCRIPTION: Amphibians and reptiles
Specimens Only
PURPOSE OF COLLECTION: Morphological and genetic variation
SAMPLING LOCATION:
STATE: South Carolina
GEOGRAPHICAL AREA: Pee Dee Area
DATES OF SAMPLING: 1971 to present
SAMPLING METHODS: General collection to obtain fauna typical of this area
TEMPORARY CONTAINER: 10% formalin
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: 10% formalin
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<452>
S.R. Windham
FL Board of Conservation; Div. of Water Resources & Conserv;Bureau of Geology;107 West Gaines Street;Tallahassee, FL 32304
(904) 488-3636

COLLECTION DESCRIPTION: Fossil vertebrates and invertebrates

<453>
James P. Parnell
Dept. of Biology;University of North Carolina-Wilmington; P.O. Box 3725; College Road;Wilmington, NC 28401
(919) 791-4330, ext. 254

COLLECTION DESCRIPTION: Fish, amphibians, and reptiles preserved whole; Bird and animal skins
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
STATE: North Carolina
DATES OF SAMPLING: 1964 to present
NUMBER OF SAMPLES: 500 - 1000
TEMPORARY CONTAINER: Glass jars
TEMPORARY STORAGE PROCEDURES: Stored in formalin
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formalin 5%
DRYING: Bird and mammal skins
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass jars for fish, amphibians, and reptiles, metal cabinets for bird and mammal skins
STORAGE MEDIA: Formalin
AVAILABILITY OF SAMPLES AND/OR DATA: Available on loan

<454>
B.A. Simco
Dept. of Biology;Memphis State University;Memphis, TN 38111
(901) 321-1594

COLLECTION DESCRIPTION: Fish, Amphibians, Reptiles and Mammals
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
STATE: Tennessee
DATES OF SAMPLING: 1967 to present
NUMBER OF SAMPLES: Approx. 4000
SAMPLING METHODS: Snap traps - mammals; seines - fish; Hand collection - reptiles and amphibians
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Fish - Isopropyl alcohol, Herps - Isopropyl alcohol, Mammals - stuffed with cotton; with moth balls
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<455>
Jerome A. Jackson
Dept. of Zoology; Mississippi State University; Mississippi State, MS 39762
(601) 325-5722

COLLECTION DESCRIPTION: Aquatic, marine and terrestrial birds: skins, skeletons and eggs
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
STATE: Mississippi; Florida; Alabama; Iowa; Kansas; New Mexico
GEOGRAPHICAL AREA: Canada
DATES OF SAMPLING: 1920 to present
NUMBER OF SAMPLES: 1000 study skins, 500 skeletons, 500 sets of eggs
SAMPLING METHODS: Shotgun, mist net
TEMPORARY CONTAINER: Metal cases
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: CS(2)
AVAILABILITY OF SAMPLES AND/OR DATA: Available to all qualified researchers

<456>
Rollin H. Baker
University Museum; Michigan State University; East Lansing, MI 48823
(517) 355-2370

COLLECTION DESCRIPTION: Birds and mammals preserved as skins and skeletons; Birds, mammals, reptiles, amphibians, and fish preserved in alcohol
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
DATES OF SAMPLING: 1955 to present
NUMBER OF SAMPLES: Mammals-22,588; Birds-6,997; Reptiles and amphibians-11,195; Fish- 6,977
AVAILABILITY OF SAMPLES AND/OR DATA: Available on loan

<457>
E.T. Hooper
Museum of Zoology;University of Michigan;Ann Arbor, MI 48104
(313) 764-0456

COLLECTION DESCRIPTION: Museum collection of mammals, aquatic, marine, and terrestrial
Specimens Only
PURPOSE OF COLLECTION: Museum collection; research; education
DATES OF SAMPLING: 1890 to present
NUMBER OF SAMPLES: 113,500
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Paradichlorobenzene 55 gallon drum/year
PERMANENT STORAGE CONDITIONS:
CONTAINER: Steel vertebrate storage cases.
TEMPERATURE: Ambient
HUMIDITY: None
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<458>

COMPONENT OF INTEREST: OTHER

<458>
John J. Ozoga
Michigan Dept. Natural Resources;Cusino Wildlife Research Sta.; Shingleton, MI 49884
(906) 452-6226

COLLECTION DESCRIPTION: Aquatic and terrestrial mammals, birds; terrestrial plants
Data and Specimens
PURPOSE OF COLLECTION: Reference collection
SAMPLING LOCATION:
    STATE: Michigan
DATES OF SAMPLING: 1950 to 1974
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: Yes
AVAILABILITY OF SAMPLES AND/OR DATA: Generally available

<459>
Maurice M. Alexander
Dept. of Forest Zoology;College of Environmental Science and Forestry;SUNY at Syracuse; Syracuse, NY 13210
(315) 473-8841

FORMAL NAME OF COLLECTION: Roosevelt Wildlife Collection; Room 215 Illick Hall
COLLECTION DESCRIPTION: Fish, amphibians and reptiles; Skins and skeletons of birds and mammals
Data and Specimens
PURPOSE OF COLLECTION: Taxonomic reference
SAMPLING LOCATION:
    STATE: New York
    GEOGRAPHICAL AREA: Other states
DATES OF SAMPLING: Past 50 years
NUMBER OF SAMPLES: Approx. 5,000
TEMPORARY CONTAINER: Whole specimens in alcohol; skins in pest proof cabinets
AVAILABILITY OF SAMPLES AND/OR DATA: Available with advance notice

<460>
John W. Ferner
Dept. of Biology;Franklin & Marshall College;Lancaster, PA 17604
(717) 393-3621, ext. 287

FORMAL NAME OF COLLECTION: Vertebrate Biology Collection, Fackenthal Laboratories
COLLECTION DESCRIPTION: Fish, mammals, amphibians, and reptiles
Data and Specimens
PURPOSE OF COLLECTION: Museum collection for teaching and research
SAMPLING LOCATION:
    CITY: Lancaster
    COUNTY: Lancaster
    STATE: Pennsylvania
DATES OF SAMPLING: Mostly 1972 to date
NUMBER OF SAMPLES: 200+
PERMANENT STORAGE CONDITIONS:
    STORAGE MEDIA: Preserved in formalin, stored in ethanol; mammal skins and skulls
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Collection just recently established, plan to continue until Lancaster County vertebrates well represented.

<461>
Clarence J. McCoy
Amphibians and Reptiles Section; Carnegie Museum of Natural History; 4400 Forbes Ave; Pittsburgh, PA 15213
(412) 622-3258

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial amphibians and reptiles
Data and Specimens
PURPOSE OF COLLECTION: Museum research and reference
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: Approx. 1875 to present
NUMBER OF SAMPLES: 105,000
TEMPORARY CONTAINER: Glass
TEMPORARY STORAGE PROCEDURES: Field-fixation in 10% formalin, water-washed, storage in 60-80% ethanol
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass jars
    TEMPERATURE: None
    HUMIDITY: None
    LIGHT EXPOSURE: Minimal
    STORAGE MEDIA: 60-80% ethanol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Completely available to qualified researchers

<462>
James R. Spotila
Dept. of Biology; State University College of New York; 1300 Elmwood Ave.; Buffalo, NY 14222
(716) 862-6409

COLLECTION DESCRIPTION: Aquatic and terrestrial, vertebrates: fish, amphibians, and reptiles
Data and Specimens
PURPOSE OF COLLECTION: Research and teaching
SAMPLING LOCATION:
    STATE: New York; Ohio; North Carolina; Arkansas
    GEOGRAPHICAL AREA: Eastern United States
PRESAMPLING CONDITIONS: Some data contained in field notes
DATES OF SAMPLING: 1965 - 1974
NUMBER OF SAMPLES: 1000 fish; 400 amphibians; 50 reptiles
TEMPORARY CONTAINER: Glass
TEMPORARY STORAGE PROCEDURES: Preserved in 4% formaldehyde
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    TEMPERATURE: Room Temperature
    HUMIDITY: Ambient
    LIGHT EXPOSURE: Ambient
    STORAGE MEDIA: 70% ethanol or 50% isopropyl alcohol
STORAGE LIFE OF SAMPLE: Approx. 20 yrs
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<463>
Sydney Anderson
Department of Mammalogy; American Museum of National History; Central Park Westat 79th Street; New York, NY 10024
(212) 873-1300 ext. 427

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial mammals, mostly dried skins and skulls
Data and Specimens
SCIENTIFIC NAME: Class Mammalia
PURPOSE OF COLLECTION: Systematic or taxonomic studies
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 2000 B.C. to present
NUMBER OF SAMPLES: Approx. 240,000 specimens
AVAILABILITY OF SAMPLES AND/OR DATA: Available on request

COMPONENT OF INTEREST: OTHER

<464>
Sanford D. Schemnitz
222 Nutting Hall; School of Forest Resources;
University of Maine; Orono, ME 04473
(207) 581-7388

COLLECTION DESCRIPTION: Aquatic and terrestrial plants; aquatic and terrestrial birds and mammals (skins and skulls)
Data and Specimens
SCIENTIFIC NAME: Martes pennanti; Somateria mollisima
COMMON NAME: Fisher; Eider
PURPOSE OF COLLECTION: Museum collection for teaching and research
SAMPLING LOCATION:
STATE: Maine
NUMBER OF SAMPLES: Approx. 3 to 4000
PERMANENT STORAGE PREPARATION: Intact Storage
AVAILABILITY OF SAMPLES AND/OR DATA: Can be examined in situ or loaned on limited basis

<465>
Kurt Benirschke
San Diego Zoo; San Diego, CA 92112
(714) 234-5151

FORMAL NAME OF COLLECTION: Cell and semen bank
COLLECTION DESCRIPTION: Semen bank of mammals for molecular genetic research
Data and Specimens
PURPOSE OF COLLECTION: Conservation of semen and genome - cytogenetic studies
SAMPLING LOCATION:
CITY: San Diego, CA; Wash. D.C.; Chicago, IL
GEOGRAPHICAL AREA: Brazil
PRESAMPLING CONDITIONS: On record
DATES OF SAMPLING: 1970 to present
NUMBER OF SAMPLES: Several hundred
RESULTS OF ANALYSES: Karyotypes, DNA and Chromosomes
SAMPLING METHODS: Skin Biopsy to tissue culture to dissociated cells; also solid tissue, biopsy fragments, and semen
TEMPORARY CONTAINER: Liquid nitrogen immersion in plastic vials
TEMPORARY STORAGE PROCEDURES: Tissue culture
PERMANENT STORAGE PREPARATION: Fractionated
FREEZING: Liquid nitrogen
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic vials
TEMPERATURE: Automatic; 10 degrees variation
LIGHT EXPOSURE: None
STORAGE MEDIA: Nitrogen
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Upon request

<466>
David B. Wake
Museum of Vertebrate Zoology; University of California; Berkeley, CA 94720
(415) 642-3567

COLLECTION DESCRIPTION: Bird skins, skeletons, eggs, nests, preserved birds; mammals skins with skulls or skeletons, preserved; reptiles and amphibians preserved in alcohol, or skeletons
Data and Specimens
PURPOSE OF COLLECTION: A problem-oriented collection, of vertebrate members of ecosystems; a documentation of change, especially for western states, and of the new world tropics. Vouchers for distribution, morphology, and evolution.
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Western United States
DATES OF SAMPLING: 1908 to present
NUMBER OF SAMPLES: Approx. 500,000: 165,000 birds - 145,000 mammals -120,000 herps
SAMPLING METHODS: Trapping, netting, or shooting -- some specimens are taken alive so that we can process chromosomes and tissues (electrophoresis).
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: For some
CHEMICAL STABILIZATION: Formalin used for fixing specimens that are to be preserved in alcohol
FUMIGATION: CS2 for incoming specimens, PDB for perm. storage, ±10 g
DRYING: Only skeletal materials, in one field. This is cleaned in preplab. when brought to museum.
PERMANENT STORAGE CONDITIONS:
CONTAINER: Standard museum cases of wood & zinc, or steel, with rubber gaskets; glass jars or stove crocks for pickles
TEMPERATURE: 5.56 degrees C for large hides; 12.8 degrees C for large skulls and skeletons
LIGHT EXPOSURE: None, except when specimens are examined or fumigated
STORAGE MEDIA: 70% alcohol for pickled specimens
STORAGE LIFE OF SAMPLE: Hundreds of years for standard museum specimens; 6 years for frozen tissues
AVAILABILITY OF SAMPLES AND/OR DATA: Loans are available to professional investigators or they are welcome to come here to examine specimens after writing the appropriate curator for each correction.
ADDITIONAL INFORMATION: Plants as evidence of work on food of animals; organic detritus as seat collection; Ours is a standard zoological collection, consisting of skins accompanied by skulls or skeletons for mammals, skins or skeletons for birds, and entire preserved specimens or skeletons for herpetological species. Some specimens of birds and mammals are also preserved in spirits; We also have a collection of frozen tissue for electrophoretic investigation, and, increasingly, are collecting live mammals for taking chromosome samples, which are on slides, and part of the regular collection; All of our specimens are catalogued (there are three general catalogues, for birds, for mammals, and for herps), and in addition, for mammals, and in part for herps, there are alphabetical-by-taxon catalogues. Field notes taken in Higgins Eternal Ink are maintained, bound, as part of the documentation; original field tags for skulls and skins are also made out in Eternal Ink and are always retained with the specimen.

<467>

COMPONENT OF INTEREST: OTHER

<467>
Milton B. Wagner
Research Office; Pacific Marine Technology; P.O. Box 8519; Long Beach, CA 90808
(213) 941-5480

COLLECTION DESCRIPTION: Aquatic and marine fish
Data and Specimens
SCIENTIFIC NAME: Family Scorpaenidae: Sebastes sp.; Scorpaena sp.; Pterois sp.
COMMON NAME: Scorpionfish; rockcods; turkey fish
PURPOSE OF COLLECTION: Museum collection; research
SAMPLING LOCATION:
STATE: Alaska; Washington; Oregon; California
GEOGRAPHICAL AREA: Pacific Coast; North America, Alaska to Baja California; British Columbia
DATES OF SAMPLING: Jan. 1, 1964 to present, irregular periods
NUMBER OF SAMPLES: 23 genera; 135 species; 15,000 individuals
SAMPLING METHODS: Seine, hook and line, trawl, chemical collecting, dip net, speargun, commercial sources
TEMPORARY CONTAINER: Plastic containers
DELAY BEFORE PERMANENT STORAGE: In formalin solution 1-3 weeks, washed 24 hrs. then transferred to 40-50% isopropyl alcohol
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formalin 5% buffered; alcohol 40-50%
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass jars; plastic lined drums
TEMPERATURE: Ambient range 10-27 degrees C
LIGHT EXPOSURE: Darkness except when personnel working within
STORAGE MEDIA: Formaldehyde and isopropyl alcohol
STORAGE LIFE OF SAMPLE: Many years possibly 100
AVAILABILITY OF SAMPLES AND/OR DATA: Data will be sent only on specific requests for exact areas or species, no general holdings requests accepted, on a time permitting basis to recognized individuals or institutions, usual exchange basis.
ADDITIONAL INFORMATION: Collection also contains many other fish species (i.e. non-scorpaenida but usually only 1-5 individual specimens per species taxa, only held for museum reference collection and comparison studies; current projects working with the scorpaenids is a population analysis of variation within species and species complexes and variations of species from one geographic population to another. Extensive data maintained for each specimen.

<468>
Charles M. Drabek
Dept. of Biology; Central State University; Edmond, OK 73034
(405) 341-2980, ext. 2922

COLLECTION DESCRIPTION: Collection of mammals
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research collection
SAMPLING LOCATION:
STATE: Oklahoma
DATES OF SAMPLING: 1970 to present
NUMBER OF SAMPLES: Approx. 300
TEMPORARY CONTAINER: Standard museum cases
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<469>
J. Hoyt Bowers
Dept. of Biology;Wayland Baptist College;Plainview, TX 79072
(806) 296-5521, ext. 44, 67

FORMAL NAME OF COLLECTION: Llano Estacado Museum
COLLECTION DESCRIPTION: Mammals, reptiles and amphibians
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Southwest United States; Mexico
DATES OF SAMPLING: 1965 to present
NUMBER OF SAMPLES: approx 2000; 1000 mammals; 1000 reptiles and amphibians
RESULTS OF ANALYSES: Skins and skulls; chromosomes (on slides)
SAMPLING METHODS: Live and snap traps
TEMPORARY STORAGE PROCEDURES: Formalin
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Paradichlorobenzene
PERMANENT STORAGE CONDITIONS:
CONTAINER: Steel cabinets
TEMPERATURE: 22.2 to 24.4 degrees C
LIGHT EXPOSURE: Minimal
STORAGE MEDIA: Air and alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Available on campus or by mail

<470>
John Bursewicz
Dept. of Biology;Culver Stockton College;Canton,MO 63435
(314) 288-5221, ext. 40

COLLECTION DESCRIPTION: Tracheophytes; all classes of vertebrates
Data and Specimens
PURPOSE OF COLLECTION: Museum collection for teaching purposes
SAMPLING LOCATION:
STATE: Arizona; California; New Mexico; Texas; Illinois; Missouri
DATES OF SAMPLING: 1962 to present
NUMBER OF SAMPLES: Approx. 1500 vertebrate individuals
SAMPLING METHODS: Not recorded
TEMPORARY CONTAINER: 8-10% formalin
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 8 to 10% formalin
STORAGE LIFE OF SAMPLE: Indefinite for taxonomic purposes
AVAILABILITY OF SAMPLES AND/OR DATA: Individuals and groups available for loan upon request

COMPONENT OF INTEREST: OTHER

<471>
Richard J. Baldauf
Education Department; Kansas City Museum; 3218 Gladstone Blvd.; Kansas City, MO 64123
(816) 483-8300

COLLECTION DESCRIPTION: Amphibians, reptiles, fish, birds, and mammals; rocks and fossils
Data and Specimens
PURPOSE OF COLLECTION: Museum collection primarily for teaching purposes
SAMPLING LOCATION:
STATE: Missouri
DATES OF SAMPLING: 1950 to 1974
SAMPLING METHODS: By hand; capture of amphibians and reptiles; fishes by seine
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 5 to 10% formalin; 60% alcohol
DRYING: Skeletal material, dried, in storage boxes
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass for whole specimens; cardboard boxes for skeletal material
LIGHT EXPOSURE: Dark storage
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: All available by request
ADDITIONAL INFORMATION: The Kansas City Museum also has collections of rocks and fossils, mostly from the Kansas-Missouri area.

<472>
John F. Belshe
Dept. of Biology; Central Missouri State University; Warrensburg, MO 64093
(816) 429-4933

COLLECTION DESCRIPTION: Bryophytes, tracheophytes, pteridophytes, and spermatophytes; aquatic fish, insects, and spiders; birds and mammals
Data and Specimens
PURPOSE OF COLLECTION: Museum reference and teaching
SAMPLING LOCATION:
STATE: Missouri
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: Late 1800's to present
NUMBER OF SAMPLES: 29,000 fish
RESULTS OF ANALYSES: Some fluoride analyses
DELAY BEFORE PERMANENT STORAGE: Less than 2 weeks
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 10% formalin; 50 to 70% ethyl or isoprophyl alcohol
FUMIGATION: Paradichlorobenzene
PERMANENT STORAGE CONDITIONS:
CONTAINER: Museum cases; glass and plastic
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Dark
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Advanced contact necessary

<473>
Jay Dee Druecker
Dept. of Biology; Chaldron State College; Chaldron, NB 69337
(308) 432-4451, ext. 295

COLLECTION DESCRIPTION: Aquatic and terrestrial vertebrates including mammals, birds, fish, and reptiles.
Data and Specimens
PURPOSE OF COLLECTION: Museum collection for teaching and research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Great Plains; United States
DATES OF SAMPLING: 1960 to present
NUMBER OF SAMPLES: Approx. 400 mammals, 100 birds, 100 reptiles, and a few fish
SAMPLING METHODS: Traps, road kills, shootings
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Standard museum skins
OTHER: Skulls skeletons are cleaned; fish and reptiles in formalin
PERMANENT STORAGE CONDITIONS:
CONTAINER: Mammal and bird cases; open shelves
AVAILABILITY OF SAMPLES AND/OR DATA: Specimen loans

<474>
Elizabeth S. Wing
Florida State Museum; Gainesville, FL 32611
(904) 392-1721

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial vertebrate skeletons
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
STATE: Florida; Georgia; Mississippi; Alabama; North Carolina; South Carolina
GEOGRAPHICAL AREA: Central America; West Indies; South America
DATES OF SAMPLING: 1960 to present
NUMBER OF SAMPLES: 177 faunal samples; 1500 comparative skeletons
RESULTS OF ANALYSES: Skeletons
SAMPLING METHODS: Archeological excavation techniques various methods use to collect comparative specimens
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Cleaned and dried
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<475>
Charles Futch
Florida Dept. of Natural Resources; Marine Research Laboratory; 100 8th Ave. SE; St. Peters, FL 33701
(813) 896-8626

COLLECTION DESCRIPTION: Aquatic and marine fish
Data and Specimens
PURPOSE OF COLLECTION: Reference
SAMPLING LOCATION:
STATE: Florida
GEOGRAPHICAL AREA: Gulf of Mexico; Atlantic Ocean
DATES OF SAMPLING: Mid 1950's to present
SAMPLING METHODS: Net, trawl, hook and line, hand grab
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formalin solution, (10%)
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass jars
STORAGE MEDIA: 70% ethanol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: On request
PUBLICATIONS: Powell, D., L.M. Dwinell, S.E. Dwinell. 1972, An Annotated Listing of the Fish Reference Collection at the Florida Department of Natural Resources Marine Research Laboratory. Special Scientific Report No. 36. Florida Department of Natural Resources Marine Research Laboratory. 179 pp.

COMPONENT OF INTEREST: OTHER

<476>
George Becker
College of Natural Resources; Dept. of Biology;
University of Wisconsin;Stevens Point, WI 54481
(715) 346-5166

COLLECTION DESCRIPTION: Aquatic and marine fish
Specimens Only
PURPOSE OF COLLECTION: Taxonomic
SAMPLING LOCATION:
STATE: Hawaii
GEOGRAPHICAL AREA: United States; Atlantic Coast; Taiwan; British Isles; Gulf of Mexico
DATES OF SAMPLING: 1958 to present
NUMBER OF SAMPLES: 700 species; approx. 60,000 samples
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Ethanol; methanol

<477>
Robert H. Mount
Dept. of Zoology and Entomology; Auburn
University; Auburn, AL 36830
(205) 826-4850

COLLECTION DESCRIPTION: Aquatic and terrestrial reptiles and amphibians
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States; South America; Ecuador
DATES OF SAMPLING: 1957 to present
NUMBER OF SAMPLES: 25,000 specimens
TEMPORARY CONTAINER: Glass; wood; plastic
TEMPORARY STORAGE PROCEDURES: Fixed in formalin (10%), preserved in ethyl alcohol (70%)
DELAY BEFORE PERMANENT STORAGE: 2 - 10 days
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS: Same as temporary storage
CONTAINER: Glass, wood, plastic
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<478>
Frank J. Schwartz
Institute of Marine Sciences; UNC-CH; Morehead
City, NC 28557
(919) 726-6841

COLLECTION DESCRIPTION: Marine and aquatic fish
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Mostly marine areas, Western Atlantic with scattered Pacific and Indian Ocean collections. Some freshwater.
DATES OF SAMPLING: 1956 through 1974
NUMBER OF SAMPLES: 162,083 specimens
TEMPORARY CONTAINER: Plastic bags or glass
TEMPORARY STORAGE PROCEDURES: Specimens either frozen or placed in 4% formaldehyde
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass bottles, fiberglass vats or stoneware crocks
STORAGE MEDIA: 40% Isopropyl alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens may be borrowed or viewed by qualified ichthyologists. Data is available on asking.
ADDITIONAL INFORMATION: Repository for North Carolina collected specimens, data source for taxonomic studies, educational collection of identified specimens.

<479>
George R. Zug; W. Ronald Heyer
Division of Reptiles and Amphibians;Smithsonian
Institution;U.S. National Museum of Natural
History;Washington, DC 20506
(202) 381-6171

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial amphibians and reptiles
Data and Specimens
PURPOSE OF COLLECTION: Research and voucher collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: Approx. 1860 to present
NUMBER OF SAMPLES: 250-300,000 specimens
TEMPORARY STORAGE PROCEDURES: Formalin preservation
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Alcohol storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: Yes
HUMIDITY: Yes
LIGHT EXPOSURE: Minimal
AVAILABILITY OF SAMPLES AND/OR DATA: Open loan policy

<480>
Herbert S. Harris, Jr.
Natural Hist Society of Maryland; 2643 N.
Charles St.; Baltimore, MD 21218
(301) 235-6116; (301) 531-5711, ext. 554; (301)
644-1181 (Home)

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial amphibians and reptiles
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: 22 degrees C
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Formaldehyde
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available on loan

<481>
Stephen R. Humphrey
Florida State Museum; Univ. of Florida;
Gainesville, FL 32601
(904) 392-1721

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial vertebrates
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
STATE: Florida
GEOGRAPHICAL AREA: Caribbean Sea; Panama; North America
DATES OF SAMPLING: 1918 to 1974
NUMBER OF SAMPLES: Approx. 10,000
CHEMICAL STABILIZATION: Whole animals or carcasses in isopropyl alcohol
FUMIGATION: Paradichlorobenzine crystals or "shell pest strips"
DRYING: Skeletons and stuffed skins stored dry
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: Air conditioned
HUMIDITY: Dehumidified
LIGHT EXPOSURE: Essentially none
STORAGE MEDIA: Air, isopropyl alcohol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available

COMPONENT OF INTEREST: OTHER

<482>
Robert J. Boles
Division of Biology; Eastern Kansas State
College; Emporia, KS 66801
(316) 343-1200, ext. 213

COLLECTION DESCRIPTION: Aquatic and marine fish
Specimens Only
PURPOSE OF COLLECTION: Educational display and research
SAMPLING LOCATION:
CITY: Emporia
COUNTY: Lyon
STATE: Kansas
GEOGRAPHICAL AREA: Gulf of Mexico
PRESAMPLING CONDITIONS: Missing or incomplete
DATES OF SAMPLING: 1930 to present
NUMBER OF SAMPLES: Unknown
SAMPLING METHODS: Seines and nets
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 10% formalin, then transferred to 40% isopropyl alcohol
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Dark

<483>
P.W. Smith
Section of Faunistic Surveys & Insect
Identification; Illinois Natural History Survey;
Natural Resources Bldg.; Urbana, IL 61801
(217) 333-6846; (217) 333-6887

COLLECTION DESCRIPTION: Terrestrial and aquatic vertebrate and invertebrate survey
Data and Specimens
PURPOSE OF COLLECTION: Research and reference collections
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Midwestern United States
DATES OF SAMPLING: 1862 to present
NUMBER OF SAMPLES: Approx. 6 million specimens
AVAILABILITY OF SAMPLES AND/OR DATA: For taxonomic study only

<484>
W. Auffenberg
Florida State Museum; University of Florida;
Gainesville, FL 32601
(904) 392-6573

COLLECTION DESCRIPTION: Aquatic, marine and terrestrial herpetology collection
Data and Specimens
PURPOSE OF COLLECTION: Herpetological and ecological research
SAMPLING LOCATION:
STATE: Florida
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1915 to present
NUMBER OF SAMPLES: Approx. 50,000 specimens
TEMPORARY CONTAINER: Glass jars
DELAY BEFORE PERMANENT STORAGE: One mo. to one and a half years
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: 21 degrees C
HUMIDITY: None
LIGHT EXPOSURE: Low intensity
STORAGE MEDIA: Isopropyl alcohol
STORAGE LIFE OF SAMPLE: Several hundred years
AVAILABILITY OF SAMPLES AND/OR DATA: Fully available

<485>
John William Hardy
Florida State Museum; University of Florida;
Gainesville, FL 32601
(904) 392-1721

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial birds and egg sets
Data and Specimens
PURPOSE OF COLLECTION: Museum Collection
SAMPLING LOCATION:
STATE: Florida
GEOGRAPHICAL AREA: Southeastern United States; North America
DATES OF SAMPLING: 1871 to present
NUMBER OF SAMPLES: Approx 20,000 bird specimens; 19,000 egg sets
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal storage cabinets with fumigant
TEMPERATURE: Constant
HUMIDITY: Constant
LIGHT EXPOSURE: None
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Fully available

<486>
Charles F. Saylor
TVA Fisheries Laboratory; Norris, TN 37828
(615) 494-7173

COLLECTION DESCRIPTION: Freshwater fish
Specimens Only
PURPOSE OF COLLECTION: Reference in taxonomic studies
SAMPLING LOCATION:
STATE: Tennessee; Alabama; Kentucky
GEOGRAPHICAL AREA: Tennessee River watershed
DATES OF SAMPLING: 8 Aug 1968 to 5 Sept 1973
NUMBER OF SAMPLES: 139
SAMPLING METHODS: Areas selected as representative of various regions within the Tennessee Valley. Collected with electrofishing gear and fish toxicants
TEMPORARY CONTAINER: Glass
TEMPORARY STORAGE PROCEDURES: Preserved initially in 40% formalin
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: Room temperature
LIGHT EXPOSURE: Low
STORAGE MEDIA: 70% isopropyl alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Limited loan basis

<487>

COMPONENT OF INTEREST: OTHER

<487>
Bill Calloway
Texas Instruments, Inc.; P.O. Box 5621, M/S 949; Dallas, TX 75222
(214) 238-4221

COLLECTION DESCRIPTION: Fish eggs and larvae
Data and Specimens
PURPOSE OF COLLECTION: Ecological surveys for utility companies
SAMPLING LOCATION:
CITY: Middleton, CT; Montegue, MA; Indian Pt., NY; Northfield, MA; Detroit, MI; Gary, IN
STATE: Connecticut; Massachusetts; Michigan; Indiana;
GEOGRAPHICAL AREA: Hudson River; St. Clair River; Lake Michigan
SAMPLING METHODS: 333 micron plankton nets, tucker trawler, epibenthic sled, stationary drift nets
TEMPORARY CONTAINER: Plastic containers
CHEMICAL STABILIZATION: 4% formalin buffered with calcium carbonate
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass vials
STORAGE LIFE OF SAMPLE: Indefinite
ADDITIONAL INFORMATION: Sampling done on weekly or biweekly basis from May through August.

<488>
J. Frank Cassel
Dept. of Zoology; North Dakota State University; Fargo, ND 58102
(701) 237-8436

COLLECTION DESCRIPTION: Bird and mammal skins, especially deer, mice, some intact birds, skeletons, nests and eggs, fish, and reptiles
Data and Specimens
COMMON NAME: Mammal collection heavy on Peromyscus
PURPOSE OF COLLECTION: Teaching and state distribution
SAMPLING LOCATION:
COUNTY: Cass; Dickey
STATE: North Dakota
DATES OF SAMPLING: Pre 1900 to present
NUMBER OF SAMPLES: Approx. 5000
TEMPORARY CONTAINER: Freezer
TEMPORARY STORAGE PROCEDURES: Skins for birds and mammals; Formalin for fish and herpts; some formalin injected birds; some skeletons, nests and eggs.
DELAY BEFORE PERMANENT STORAGE: Various
FREEZING: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Lane cases for birds and mammals; Fish and herpts in jars
STORAGE MEDIA: Fish and herpts in formaldehyde
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Room 107 (Birds & Mammals) & 110 (Fish & herpts) Stevens Hall open 6 am to 9:30 pm weekdays, available by calling Cassel on weekends.

<489>
William T. Helm
Wildlife Science; Utah State University; Logan, UT 84322
(801) 752-4100, ext. 7934

FORMAL NAME OF COLLECTION: Ichthyology collection
COLLECTION DESCRIPTION: Freshwater fish
Specimens Only
PURPOSE OF COLLECTION: Teaching collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
PRESAMPLING CONDITIONS: None
DATES OF SAMPLING: Approx. 1960 to present
SAMPLING METHODS: Fish management methods; seine; rotenone; gill nets
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formalin 10%
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
STORAGE MEDIA: Formalin
AVAILABILITY OF SAMPLES AND/OR DATA: Available for analysis here

<490>
Carl B. Schreck
Fisheries and Wildlife; Virginia Polytechnic Institute and State University; Blacksburg, VA 24060
(703) 951-6944

COLLECTION DESCRIPTION: Freshwater fish
Specimens Only
PURPOSE OF COLLECTION: Teaching collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
PERMANENT STORAGE PREPARATION: Intact storage
CHEMICAL STABILIZATION: Alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<491>
Alice Lipson; R. Lynn Moran
Martin Marietta Laboratories; 1450 S. Rolling Rd.; Baltimore, MD 21227
(301) 247-0700

FORMAL NAME OF COLLECTION: Potomac River Ichthyoplankton Reference Collection
COLLECTION DESCRIPTION: Ichthyoplankton; brackish water and seawater samples
Specimens Only
PURPOSE OF COLLECTION: Identification in relation to power plant assessment programs
SAMPLING LOCATION:
GEOGRAPHICAL AREA: East Coast estuaries; Potomac River
DATES OF SAMPLING: Mostly 1972 to 1974
NUMBER OF SAMPLES: Approx. 75 species
RESULTS OF ANALYSES: Eggs, larvae, and freshwater, estuarine, and marine juvenile fish
SAMPLING METHODS: Plankton nets 1/2 to 1 meter
TEMPORARY CONTAINER: Glass vials,1 plastic lined cups
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formalin or alcohol
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Dark
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens available for use

<492>
Project Leader
Dept. of Interior; Fish and Wildlife Service; P.O. Box 928; Warren, PA 16365
(814) 563-7991

COLLECTION DESCRIPTION: Freshwater fish; freshwater samples from lakes and rivers
Data and Specimens
PURPOSE OF COLLECTION: Fishery management
SAMPLING LOCATION:
STATE: Pennsylvania; New Jersey; New York
DATES OF SAMPLING: 1964 to 1974
SAMPLING METHODS: Rotenone, gillnets, trapnets, or shocking
CHEMICAL STABILIZATION: 10% formalin
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic or glass jars
STORAGE MEDIA: Formaldehyde

<493>
Clarence L. Smith
Department of Ichthyology; American Museum of Natural History; Central Park West at 79th; New York, NY 10024
(212) 873-1300 ext. 388

FORMAL NAME OF COLLECTION: American Museum Fish Collection
COLLECTION DESCRIPTION: Aquatic and marine fish
Data and Specimens
PURPOSE OF COLLECTION: Systematics and anatomical studies
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1870 to present
NUMBER OF SAMPLES: 30,000 lots
SAMPLING METHODS: Various
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Field preserved in formalin - washed and transferred to 40% propanol for permanent storage
OTHER: Dry - skeletons also cleaned and stained specimens
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass jars; large specimens in wooden coffins
AVAILABILITY OF SAMPLES AND/OR DATA: Available to qualified scientists

<494>
David M. Green; Stephen B. Smith
Dept. of Natural Resources; Cornell University; RD 3 East Lake Rd.; Richfield Springs, NY 13439
(315) 858-1527

FORMAL NAME OF COLLECTION: Collection of Fisheries Investigations
COLLECTION DESCRIPTION: Fish, Zooplankton and benthic organisms from eutrophic lake
Data and Specimens
PURPOSE OF COLLECTION: To determine the effect of a reduction in nutrients of a lake on animal population, identification and enumeration
SAMPLING LOCATION:
CITY: Richfield
COUNTY: Otsego
STATE: New York
GEOGRAPHICAL AREA: Canadargo Lake
PRESAMPLING CONDITIONS: Taken from highly eutrophic lake receiving raw sewage discharge. Discharge ended January 1973 and 95% of phosphorus removed from effluent from plant beginning January 1973
DATES OF SAMPLING: August 1972 to present. Sampling will continue at least thru Fall, 1976.
NUMBER OF SAMPLES: 600 zooplankton; 350 benthic organisms; 100 fish samples
SAMPLING METHODS: Fish - Assorted fish sampling equipment, Zooplankton - #10 mesh 1/2 meter net, Benthos - 6x6 Ekman Dredge screened through #60 screen
TEMPORARY STORAGE PROCEDURES: 10 - 30% formalin
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Zooplankton: erosin -y or Lugol's stain; benthos - phloxine B stain
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Low intensity room lighting
STORAGE MEDIA: Zooplankton, some formaldhyde (5-10%) and Ca CO(3), some Lugol's with acid modification; Benthos, 70% ethanol with glycerine; Fish, 10-30% formaldehyde
AVAILABILITY OF SAMPLES AND/OR DATA: Data available; samples may be available at a later date by arrangement; slides of invertebrates available upon request
ADDITIONAL INFORMATION: Project to terminate March 31, 1977 (may be extended). Upon project termination samples and data will be turned over to State of New York or disposed of. Fish samples may be held 1-2 years from date of capture and then disposed of. Zooplankton and benthos - At least a portion of sample will be retained until 1977 or longer. Species lists provided.

<495>
Steven M. Shapiro
Massachusetts Div. of Fisheries & Game; Field Headquarters; Westboro, MA 01581
(617) 366-4479

COLLECTION DESCRIPTION: Freshwater fish
Specimens Only
SCIENTIFIC NAME: Notropis hudsonius (Clinton)
COMMON NAME: Spottail shiner
PURPOSE OF COLLECTION: Research on life history and taxonomy
SAMPLING LOCATION:
STATE: Massachusetts; New York; Pennsylvania
GEOGRAPHICAL AREA: Northeastern United States
DATES OF SAMPLING: April 1973 to May 1974
SAMPLING METHODS: Seining, trawling, electro-shocker
TEMPORARY CONTAINER: Plastic or glass
TEMPORARY STORAGE PROCEDURES: 10% formalin, one week; water, three days; 40% alcohol, final storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass or plastic
STORAGE MEDIA: 40% ethanol
AVAILABILITY OF SAMPLES AND/OR DATA: Can provide whole specimens if not needed for thesis

<496>
Thomas M. Stauffer
Marquette Fish Research;Michigan Dept. of Natural Resources; 484 Cherry Creek Rd.;Marquette, MI 49855
(906) 249-1611

COLLECTION DESCRIPTION: Trout and salmon
Data and Specimens
SCIENTIFIC NAME: Salmo gairdneri
COMMON NAME: Trout and salmon
PURPOSE OF COLLECTION: Distribution records; food habit and growth studies
SAMPLING LOCATION:
STATE: Michigan
PRESAMPLING CONDITIONS: None
DATES OF SAMPLING: 1950 to 1974
SAMPLING METHODS: Electro-fishing gear
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formalin 5 to 15%
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass jars
AVAILABILITY OF SAMPLES AND/OR DATA: Samples would be available

<497>

COMPONENT OF INTEREST: OTHER

<497>
Charles R. Keller
Indiana Dept. of Natural Resources;Division of Fish & Wildlife; Patoka Fish & Wildlife Area;Winslow, IN 47598
(812) 789-2724

COLLECTION DESCRIPTION: Freshwater fish
Data and Specimens
PURPOSE OF COLLECTION: Educational
SAMPLING LOCATION:
STATE: Indiana
DATES OF SAMPLING: July 1970 - September 1972
NUMBER OF SAMPLES: Approx. 60 species
SAMPLING METHODS: Electro-fishing and rotenone
TEMPORARY STORAGE PROCEDURES: Small specimens preserved whole, large individuals had their stomach split and/or injected with formalin.
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 10% Formaldehyde
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Formaldehyde
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<498>
Branley A. Branson
Dept. of Biological Sciences;Eastern Kentucky University; Richmond, KY 40475
(606) 622-2635

COLLECTION DESCRIPTION: Freshwater fish, fish skeletons, and snails
Data and Specimens
PURPOSE OF COLLECTION: Systematic and biogeographic research
SAMPLING LOCATION:
STATE: Kentucky
DATES OF SAMPLING: 1964 to 1974
NUMBER OF SAMPLES: Approx. 650 localities
SAMPLING METHODS: Netting, traps, electroshockers, chemicals, and hand-picking
TEMPORARY CONTAINER: Glass; vials; boxes
TEMPORARY STORAGE PROCEDURES: Killed in formalin, washed, stored in alcohol
DELAY BEFORE PERMANENT STORAGE: Week to as much as two years
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: Moderate
LIGHT EXPOSURE: Incandescent
STORAGE MEDIA: Alcohol (45%)
STORAGE LIFE OF SAMPLE: A few weeks to ten or more years
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<499>
Frederick S. Barkalow, Jr.
P.O. Box 5577; Dept. of Zoology;North Carolina State University;Raleigh, NC 27607
(919) 737-2591

COLLECTION DESCRIPTION: Vertebrate skins and skulls - mammals
Data and Specimens
PURPOSE OF COLLECTION: Research and teaching
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
DATES OF SAMPLING: 1947 to present
NUMBER OF SAMPLES: Approx. 3500 skins and skulls
SAMPLING METHODS: Trapping and shooting
TEMPORARY CONTAINER: Deep freeze
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Made into scientific (study) skins
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal museum cases
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Fumigation from time to time including "no pest" strips, etc.
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Loan

<500>
William E.S. Carr
C.V. Whitney Laboratory;University of Florida;Rt. 1, Box 121;St. Augustine, FL 32084
(904) 824-8366; (904) 824-8367

COLLECTION DESCRIPTION: Marine vertebrates and invertebrates collected from estuarine area
Data and Specimens
PURPOSE OF COLLECTION: To study the effects of thermal effluent from a steam electric station on the fauna of marshland (estuarine) creeks, species, and abundance
SAMPLING LOCATION:
CITY: Jacksonville
COUNTY: Duval
STATE: Florida
PRESAMPLING CONDITIONS: Area sampled was an estuarine marshland area containing many creeks. One creek sampled received thermal effluent constantly--2nd creek sampled received injection of thermal effluent at onset of rising tide--3rd creek was approximately one mile away and received no thermal effluent.
DATES OF SAMPLING: June, July, and September 1973
NUMBER OF SAMPLES: 14,000
RESULTS OF ANALYSES: Fish, crustaceans, polychaetes; some molluscs--only the fish have been worked up in their entirety to date.
SAMPLING METHODS: 50 ft. bag seine of 3/8 in., stretch mesh netting
TEMPORARY CONTAINER: Polyethylene bottles
TEMPORARY STORAGE PROCEDURES: Approx. 25% formalin
DELAY BEFORE PERMANENT STORAGE: Approx 4-7 days
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass jars
TEMPERATURE: Room temperature
LIGHT EXPOSURE: Intermittent
STORAGE MEDIA: Approx. 60% isopropyl alcohol
STORAGE LIFE OF SAMPLE: From June, July or Sept., 1973 to present.
AVAILABILITY OF SAMPLES AND/OR DATA: Conditional
ADDITIONAL INFORMATION: Species list provided. The fish include 48 species belonging to 23 families, 14,000 specimens in all. Most specimens are of juveniles since the major thrust of the study was to determine effects of thermal effluents on nursery area characteristics of creeks. Study stations included sampling from two thermally effected creeks and one creek at ambient temperature. This material will be published in Fishery Bulletin in early 1975.

COMPONENT OF INTEREST: OTHER

<501>
Roland Wigley
National Marine Fisheries Service; Woods Hole Biological Lab.; Woods Hole, MA 02543
(617) 548-5123

FORMAL NAME OF COLLECTION: Northeast Fisheries Center Specimen Collection
COLLECTION DESCRIPTION: Marine invertebrates and vertebrates
Data and Specimens
PURPOSE OF COLLECTION: Reference specimens for indentification purposes
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States: Northeastern coast-50 to 100 Miles, Cape Hatteras to Canada
DATES OF SAMPLING: 1953 to present
NUMBER OF SAMPLES: Thousands
SAMPLING METHODS: Stratified random and geographic grid
TEMPORARY CONTAINER: Glass
TEMPORARY STORAGE PROCEDURES: Formalin, alcohol
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Some
STORAGE MEDIA: Mostly alcohol
STORAGE LIFE OF SAMPLE: 1 to 2 centuries
AVAILABILITY OF SAMPLES AND/OR DATA: Personnel not available to service collection

<502>
Thomas A. Clarke
Hawaii Institute of Marine Biology; P.O. Box 1346; Kaneohe, HI 96744
(808) 247-6631

COLLECTION DESCRIPTION: Mesopelagic micronektons, other marine invertebrates, and fish
Data and Specimens
COMMON NAME: Mesopelagic micronekton
PURPOSE OF COLLECTION: Ecology
SAMPLING LOCATION:
GEOGRAPHICAL AREA: 21 degrees 10-20 minutes N 158 degrees 10-20 minutes W
DATES OF SAMPLING: Sept. 1969 to Nov. 1974
NUMBER OF SAMPLES: Approx. 400 trawl and 100 zooplankton collections; 200 fish spp.; 200 crustacean spp. and other invertebrates
SAMPLING METHODS: Midwater trawls, plankton nets
TEMPORARY CONTAINER: Glass
TEMPORARY STORAGE PROCEDURES: 5% formaldehyde
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 5% formaldehyde; 40% isopropyl alcohol
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
AVAILABILITY OF SAMPLES AND/OR DATA: Yes, if my research requirements have been satisfied.

<503>
Jay C. Quast
Auke Bay Biological Laboratory;US Dept. of Commerce;National Oceanic & Atmospheric Admin.;P.O. Box 155;Auke Bay, AK 99821
(907) 789-7231

COLLECTION DESCRIPTION: Fish and macro-form marine and aquatic invertebrates; marine algae.
Data and Specimens
PURPOSE OF COLLECTION: Reference and study
SAMPLING LOCATION:
STATE: Alaska
DATES OF SAMPLING: 1960 to 1974
NUMBER OF SAMPLES: Approx. 4,000 collections
SAMPLING METHODS: Trawls, scuba, hook and line
TEMPORARY STORAGE PROCEDURES: 4 percent formaldehyde one week to one month
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: 37% isopropyl alcohol
STORAGE LIFE OF SAMPLE: Approx. 100 years
AVAILABILITY OF SAMPLES AND/OR DATA: On loan basis
ADDITIONAL INFORMATION: Species list available

<504>
Paul R. Wagner
Dept. of Marine Science; Louisiana State University; 437 Country Club Rd; Slidell, LA 70458
(504) 641-0192

Data and Specimens
PURPOSE OF COLLECTION: Representative Collection for Ph.D Dissertation Research
SAMPLING LOCATION:
CITY: Grand Isle
COUNTY: Lafourche
STATE: Louisiana
GEOGRAPHICAL AREA: Caminada Bay System
DATES OF SAMPLING: March 1971 to June 1972
NUMBER OF SAMPLES: 199
SAMPLING METHODS: Sampling stations selected to represent habitat types in decreasing salinities from Gulf of Mexico to near freshwater, samples taken quantitatively with 16' trawl, 75' bag seine, 300' trammel net.
TEMPORARY CONTAINER: Glass
DELAY BEFORE PERMANENT STORAGE: One week in 10% formalin
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 10% formalin one week; rinse in water; 40% isoprophyl alcohol
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass jars
TEMPERATURE: Room temperature
HUMIDITY: None
STORAGE MEDIA: 40% isoprophyl alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Some specimens available where I have a representative series; data available
ADDITIONAL INFORMATION: Research entitled "Seasonal Biomass, Abundance, and Distribution of Estuarine Dependent Fishes in the Caminada Bay System of Louisiana" Collected against salinity gradient.

<505>

COMPONENT OF INTEREST: OTHER

<505>
Walter R. Latapie, Jr.
Marine Biological Laboratory; Louisiana Wild Life & Fisheries Commission; P.O. Box 37; Grand Isle, LA 70358
(504) 787-2163

COLLECTION DESCRIPTION: Marine vertebrates, invertebrates, and plants
Data and Specimens
PURPOSE OF COLLECTION: Reference collection for identification of various fishes and invertebrates
SAMPLING LOCATION:
STATE: Louisiana
GEOGRAPHICAL AREA: Offshore waters
DATES OF SAMPLING: 1952 to present
NUMBER OF SAMPLES: Approx. 750
SAMPLING METHODS: Otter trawls, plankton nets, miscellaneous seines and dip nets
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 10 percent formalin U.S.P.
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass and stainless steel tanks
STORAGE MEDIA: 10 percent formalin in sea water or tap water
AVAILABILITY OF SAMPLES AND/OR DATA: They could be examined at our lab by appointment. Some could be shipped to others, if they could be returned or if we had duplicate specimens.

<506>
Linda H. Pequegnat
Dept. of Oceanography; Texas A&M University;College Station, TX 77843
(713) 846-2192

COLLECTION DESCRIPTION: Marine fish and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Research and museum collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Gulf of Mexico; Caribbean Sea
DATES OF SAMPLING: 1964-1973
NUMBER OF SAMPLES: 25,500 crustaceans, 19,000 echinoderms, 15,000 mollusks, 6,000 other marine invertebrates
SAMPLING METHODS: Dredges and trawls
TEMPORARY CONTAINER: Glass jars
DELAY BEFORE PERMANENT STORAGE: Up to 2-3 years in some cases
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass jars
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Dark
STORAGE MEDIA: 70% alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Some samples and data

<507>
Thomas W. McKenney
National Marine Fisheries Service; RR7A; Box 522A; Narragansett, RI 02892
(401) 789-9324

COLLECTION DESCRIPTION: Marine fish larvae and plankton
Data and Specimens
PURPOSE OF COLLECTION: In connection with resource assessment studies being conducted by NMFS
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Eastern United States
PRESAMPLING CONDITIONS: Some reared in the laboratory and preserved.
DATES OF SAMPLING: About three times a year sine 1970
NUMBER OF SAMPLES: Several thousand
RESULTS OF ANALYSES: Larval fishes from less than 1 mm length to several cm length and remainder of plankton samples.
SAMPLING METHODS: Plankton nets
DELAY BEFORE PERMANENT STORAGE: Up to a year
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formalin 3 to 10%
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass with plastic tops
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Stored in cabinets and boxes
STORAGE MEDIA: Formalin
STORAGE LIFE OF SAMPLE: Not known (at least 5 years)
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and data are available
ADDITIONAL INFORMATION: We collect plankton samples off the eastern coast of the U.S. and remove the larval fishes. We also retain the remainder of the samples.

<508>
Stephen Russell
Dept. of Biological Science; University of Arizona;Tucson, AZ 85721
(602) 884-1026

COLLECTION DESCRIPTION: Birds
Specimens Only
PURPOSE OF COLLECTION: Museum collections
SAMPLING LOCATION:
STATE: Arizona
GEOGRAPHICAL AREA: Mexico
NUMBER OF SAMPLES: Approx. 200 specimens
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Alcohol or formalin
ADDITIONAL INFORMATION: Collection is of whole birds (of various species) intended for preservation of birds for anatomical studies

<509>
Robert B. Finley, Jr.
Forest Service; Computer Bldg.; 3825 E. Mulberry; Fort Collins, CO 80521
(303) 493-4855

COLLECTION DESCRIPTION: Terrestrial mammals, birds, reptiles, and amphibians
Data and Specimens
PURPOSE OF COLLECTION: Museum collection for research, identification, and deposit of voucher specimens
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States
RESULTS OF ANALYSES: Skins, skulls and skeletons, all dry; some whole bodies in alcohol and formaldehyde
SAMPLING METHODS: General collecting, guns, traps, mist nets
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: formaldehyde; alcohol (70% ethyl or isopropyl)
FUMIGATION: Ethylene dichloride and carbon tetrachloride (3:1 mix)
PERMANENT STORAGE CONDITIONS:
CONTAINER: Standard museum specimen cases
LIGHT EXPOSURE: Only during study
STORAGE MEDIA: Air; formaldehyde; alcohol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: To qualified researchers by prior arrangements
ADDITIONAL INFORMATION: This collection is a small branch collection now administered by the Natl. Fish & Wildlife Lab., USF&WS, Natl. Museum of Nat. Hist., Wash. D.C. 20560. It was formerly administered independently as the Denver Food Habits Lab. from 1931 until 1957 and after that by the Denver Wildlife Research Center until 1973.

COMPONENT OF INTEREST: OTHER

<510>
Glen C. Sanderson
Section of Wildlife Research; Illinois Natural History Survey; Urbana, IL 61801
(217) 333-6870

COLLECTION DESCRIPTION: Aquatic and terrestrial vertebrates and soils: bones, skeletons, skulls, feathers of birds and mammals
Data and Specimens
PURPOSE OF COLLECTION: Museum, chemical analyses, and research
SAMPLING LOCATION:
STATE: Illinois
PRESAMPLING CONDITIONS: General and specific information on areas where specimens were collected.
DATES OF SAMPLING: 1940 to 1974
NUMBER OF SAMPLES: Unknown; several hundred.
TEMPORARY CONTAINER: Glass, plastic, air drying
TEMPORARY STORAGE PROCEDURES: Freezing, preserving, air drying, and freeze drying
PERMANENT STORAGE PREPARATION: Intact Storage; Fractionated
FREEZING: Yes
LYPHYLIZATION: Yes
DRYING: Yes
AVAILABILITY OF SAMPLES AND/OR DATA: Possibly samples on an individual basis
ADDITIONAL INFORMATION: In the Section of Wildlife Research we have various specimens of animals, soil, and plants collected usually for specific research objectives. Many of the specimens are retained in storage after the data have been recorded but ours is not a collection in the usual museum sense. Most of our specimens are of birds and mammals. We have some whole specimens but more bones, skeletons, skulls, feathers, etc. that are of interest for various reasons. As an example, I have several thousand raccoon bacula collected during the past 25 years in Missouri, Iowa, and Illinois. These bones were collected in connection with a general study of the raccoon. I have saved the bones and now plan to analyze a sample of them for lead residues to determine what has happened in this species during the time the use of leaded gasoline has increased several fold. A specific request to me would indicate if we have any of a particular specimen of interest and the conditions under which some or all of the specimens could be used.

<511>
John P. Farney
Dept. of Biology; Kearney State College; Kearney, NB 68847
(308) 236-4433

COLLECTION DESCRIPTION: Aquatic and terrestrial birds, mammals, fish, amphibians, and reptiles
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
STATE: Nebraska
GEOGRAPHICAL AREA: Great Plains
DATES OF SAMPLING: 1965 to 1974
NUMBER OF SAMPLES: 5,000, (15,000 specimens)
SAMPLING METHODS: Kill & live trapping
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: -3 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal
TEMPERATURE: Room temperature
LIGHT EXPOSURE: Minimal
AVAILABILITY OF SAMPLES AND/OR DATA: Available on short term loans

<512>
Donald F. Hoffmeister
Museum of Natural History; University of Illinois; Urbana, IL 61801
(217) 333-2517

COLLECTION DESCRIPTION: Terrestrial vertebrates and invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Research collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
AVAILABILITY OF SAMPLES AND/OR DATA: Available to qualified researchers

<513>
George C. West
Institute of Arctic Biology; University of Alaska; Fairbanks, AK 99701
(907) 479-7640

COLLECTION DESCRIPTION: Alaskan birds and mammals
Data and Specimens
PURPOSE OF COLLECTION: Research and demonstration
SAMPLING LOCATION:
STATE: Alaska
DATES OF SAMPLING: 1963 to present
NUMBER OF SAMPLES: Small
SAMPLING METHODS: Traps, nets, shotgun
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Standard skin preparation
AVAILABILITY OF SAMPLES AND/OR DATA: Loans possible
ADDITIONAL INFORMATION: Data exist for 1000 willow ptarmigan (Lagopus lagopus).

COMPONENT OF INTEREST: OTHER

<514>
Charles V. Lucier
Alaska Dept. Fish & Game; 333 Raspberry Rd.;
Anchorage, AK 99502
(907) 344-0541, ext. 123, 124

COLLECTION DESCRIPTION: Big game teeth; game range plants including lichens, embryophytes, bryophytes, tracheophytes, pteridophytes and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Research in big game management
SAMPLING LOCATION:
    STATE: Alaska
DATES OF SAMPLING: 1950 to present, 1960 to present-teeth
NUMBER OF SAMPLES: 8,000 teeth, others not inventoried
SAMPLING METHODS: Teeth from living and dead specimens by extraction; other animal specimens from autopsies
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Some teeth decalcified in acid solution
    DRYING: Yes
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Specimens (teeth primarily) in alcohol filled vials. Decalcified and microsectioned or plain thin sectioned teeth on permanent slide mounts
    TEMPERATURE: Room temperature
    HUMIDITY: None
    LIGHT EXPOSURE: Fluorescent lighting
    STORAGE MEDIA: Ethyl alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: No restrictions known
ADDITIONAL INFORMATION: Most data on letter size, paper autopsy forms; some data relating to teeth has been computerized by game biologists; large quantities of data (published and unpublished) outside laboratory premises, on specimen autopsy cards, and compilations. Requests for specimens may be directed to the Game Division laboratory, to staff game biologists (if known to outside researchers) or to: Alaska Deprtment of Fish & Game, Game Division Director, Subport Building, Juneau, Alaska 99801 Interests: aging study from teeth; animal condition from marrow; blood disease

<515>
Richard E. Griffith, Jr.
Dept. Interior, Division of Research; Wildlife Damage Research Station; P.O. Box 593; Twin Falls, ID 83301
(208) 733-0186

COLLECTION DESCRIPTION: Blacktailed jackrabbit embryos
Data and Specimens
SCIENTIFIC NAME: Lepus californicus
COMMON NAME: Blacktailed jackrabbit
PURPOSE OF COLLECTION: Reference and research
SAMPLING LOCATION:
    COUNTY: Twinfalls; Owyhee; Jerome
    STATE: Idaho
DATES OF SAMPLING: Jan 1964 - Nov 1967
NUMBER OF SAMPLES: 38
SAMPLING METHODS: Embryos, some with uterine parts, were removed from wild pregnant females
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Formaldehyde (10%) dilution of 37%, U.S.P.
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass, plastic or metal caps
    TEMPERATURE: Room temperature
    LIGHT EXPOSURE: Dark
    STORAGE MEDIA: Formaldehyde
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Embryos in this collection are representative of almost all stages of gestation for Lepus californicus. We also have a partial collection of local wild forbs and grasses. These are mounted dried specimens. About 30 of the 60 in the collection are identified.

<516>
Allen E. Anderson
Colorado Div. of Wildlife; P.O. Box 2287; Fort Collins, CO 80521
(303) 484-2836

COLLECTION DESCRIPTION: Mule deer organs; bryophytes, pteridophytes and spermatophytes
Data and Specimens
SCIENTIFIC NAME: Odocoileus hemionus hemionus
COMMON NAME: Mule Deer
PURPOSE OF COLLECTION: Ecological studies of mule deer-studies of growth in mule deer;
SAMPLING LOCATION:
    COUNTY: Larimer
    STATE: Colorado
    GEOGRAPHICAL AREA: Roosevelt National Forest, 528 mile sq. portion of Cache la Poudre River drainage 15 mile NW of Fort Collins within the Front Range
PRESAMPLING CONDITIONS: Deer were shot at approx. weekly intervals April 1961 to May 1965.
DATES OF SAMPLING: 13 April 1961 to 27 May 1965
NUMBER OF SAMPLES: 600 plant specimens; deer: 104-reproductive organs; 192 (approx) heart, kidneys, humerus
SAMPLING METHODS: Deer were shot on the range; removal and preservation of materials in laboratory
PERMANENT STORAGE PREPARATION: Intact Storage
    OTHER: Buffered formalin
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    TEMPERATURE: None
    HUMIDITY: None
    LIGHT EXPOSURE: Limited
    STORAGE MEDIA: Formaldehyde
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: We have 2 collections (1) small herbaria (about 600 spp) and (2) organs (heart, kidneys, humerus) of about 192 deer and the complete reproductive tract of about 104 female deer. Most organs and glands have been utilized for radiological, histological, histochemical and morphological studies; those listed here are still available.

COMPONENT OF INTEREST: OTHER

<517>
David M. Armstrong
Dept. Integrated Studies; University of Colorado;
128 Ketchum; Boulder, CO 80302
(303) 449-5711

FORMAL NAME OF COLLECTION: Univ. of Colorado Museum
COLLECTION DESCRIPTION: Terrestrial mammals and ectoparasites
Data and Specimens
PURPOSE OF COLLECTION: Voucher specimens for baseline environmental assessment
SAMPLING LOCATION:
    COUNTY: San Juan, UT; Grand, CO
    STATE: Utah; Colorado
DATES OF SAMPLING: 1971; 1974
NUMBER OF SAMPLES: 1000
TEMPORARY STORAGE PROCEDURES: Standard museum specimens; guts in 10% formalin; ectoparasites in 70% ETOH
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: 10% formalin; 70% ETOH
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<518>
Robert D. Gustafson
U.S. Fish and Wildlife Services; Montezuma N.W. Refuge; RD 1, Box 232; Seneca Falls, NY 13148
(315) 568-5987

COLLECTION DESCRIPTION: Terrestrial and aquatic vertebrates; deer fetuses, snakes, frogs, toads, turtles, opossum, moles, fish, and bird tongues
Specimens Only
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
    CITY: Seneca Falls
    COUNTY: Seneca
    STATE: New York
    GEOGRAPHICAL AREA: Montezuma Northwest Refuge
DATES OF SAMPLING: August, 1967- May, 1974
NUMBER OF SAMPLES: 26 categories
TEMPORARY CONTAINER: Most samples put directly into formalin, some frozen
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    TEMPERATURE: Room temperature
    LIGHT EXPOSURE: Room conditions
    STORAGE MEDIA: Formaldehyde
AVAILABILITY OF SAMPLES AND/OR DATA: Most samples would be available for research if needed
ADDITIONAL INFORMATION: Most samples were collected at point of interest, no intensive collection for specific studies have been made. Species list available

<519>
Lawrence H. Robinson
U.S. Department of Agriculture, Soil Conservation Service; 1370 Hamilton St.; P.O. Box 219;
Somerset, NJ 08873
549-5595

COLLECTION DESCRIPTION: Mourning doves and grain, dove proso and browntop millet.
Data Collection Only
SCIENTIFIC NAME: Zenaiduta mactoura; Panicum Miliaceum
PURPOSE OF COLLECTION: Determine food habits of mourning doves in S.C. & compare dove proso with browntop millet
SAMPLING LOCATION:
    STATE: South Carolina
DATES OF SAMPLING: 1966 - 1973
NUMBER OF SAMPLES: 217
RESULTS OF ANALYSES: Crop contents of mourning doves
SAMPLING METHODS: Crops collected from the field and analyzed volumetrically
AVAILABILITY OF SAMPLES AND/OR DATA: Data available
PUBLICATIONS: "Dove" Proso Millet - New Mourning Dove Food?, L.H. Robinson, Proc. 25th Annual Conf. of S.E. Assoc. Game and Fish Comm., 1971
ADDITIONAL INFORMATION: Few crop contents were kept but data available. Complete food habit study will be published in 1975

<520>
Leonard J. Greenfield
Dept. of Biology; University of Miami; P.O. Box 249118; Coral Gables, FL 33124
(305) 284-3973

COLLECTION DESCRIPTION: Standard herbarium plants, spermatophytes; bird skins
Data and Specimens
PURPOSE OF COLLECTION: Reference and teaching
NUMBER OF SAMPLES: 5000 plants, 10,000 bird skins
ADDITIONAL INFORMATION: (5000) Plants are standard herbarium specimens (subtropics and tropics); (10,000) Bird skins are standard study specimens (subtropics and tropics)

<521>
Elmer C. Birney
Bell Museum of Natural History; University of Minnesota; Minneapolis, MN 55455
(612) 373-5645

COLLECTION DESCRIPTION: Terrestrial Vertebrates
Data and Specimens
PURPOSE OF COLLECTION: Research and teaching
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: North America
DATES OF SAMPLING: 1900 to present
NUMBER OF SAMPLES: Approx. 13,000
    CHEMICAL STABILIZATION: 10% are in 70% alcohol
    FUMIGATION: Carbon disulfide
    DRYING: 90% dried
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Metal cases

<522>
Robert C. Vande Hey
Division of Natural Sciences; St. Norbert College; De Pere, WI 54115
(414) 336-3181 ext.465

COLLECTION DESCRIPTION: Insects
Specimens Only
PURPOSE OF COLLECTION: Museum Reference
SAMPLING LOCATION:
    CITY: De Pere, WI
    COUNTY: Brown, WI
    STATE: Wisconsin; Indiana; Missouri
DATES OF SAMPLING: 1935; 1960 to 1974
TEMPORARY CONTAINER: Wood
TEMPORARY STORAGE PROCEDURES: Dry with protection against moths
PERMANENT STORAGE PREPARATION: Intact Storage
    FUMIGATION: Paradichlorobenzene
    DRYING: Yes
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Wood - glass: USDA insect cabinet
    STORAGE MEDIA: air

<523>

COMPONENT OF INTEREST: OTHER

<523>
George B. Craig
Dept. of Biology; University of Notre Dame; Notre Dame, IN 46556
(219) 283-7366

COLLECTION DESCRIPTION: Mosquitoes in all stages of development.
Data and Specimens
SCIENTIFIC NAME: Mosquitoes, genus Aedes - about 25 species plus 6 other species
COMMON NAME: Mosquitoes
PURPOSE OF COLLECTION: Genetic research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
PRESAMPLING CONDITIONS: Collected in the field either as larvae or as biting adults
DATES OF SAMPLING: Past 10 years: majority are A.aegypti from Africa, last 2 years
NUMBER OF SAMPLES: 200 strains, 31 species
RESULTS OF ANALYSES: Maintained as eggs; new generation run every 4 months
SAMPLING METHODS: Collected as larvae or biting females
TEMPORARY CONTAINER: Plastic refrigerator crispers
TEMPORARY STORAGE PROCEDURES: Eggs held at 16 degrees C, 95% RH; kept up to 6-8 months before eggs lose viability
DELAY BEFORE PERMANENT STORAGE: Eggs left in insectary (27 degrees C, 80% RH) live up to 3 months
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Slowly dry egg papers at 27 degrees C, 80% RH
PERMANENT STORAGE CONDITIONS:
CONTAINER: No permanent storage - living eggs
STORAGE LIFE OF SAMPLE: Maximum 1 year for most species
AVAILABILITY OF SAMPLES AND/OR DATA: Available on request

<524>
Philip A. Lewis
Analytical Quality Control Laboratory; U.S. Environmental Protection Agency; National Environmental Research Center; MDQARL, bdg3 1014 Broadway; Cincinnati, OH 45268
(513) 684-2990

COLLECTION DESCRIPTION: Freshwater invertebrates; river water and bottom sediment samples as indicators of water pollution
Data and Specimens
PURPOSE OF COLLECTION: Reference collection and for training purposes.
SAMPLING LOCATION:
CITY: Cincinnati
STATE: Ohio
GEOGRAPHICAL AREA: Lake Tahoe; Klamath River; Mississippi River; Tennessee River
PRESAMPLING CONDITIONS: Many of the areas have been sampled for years as part of the EPA surveillance program of the old Water Quality Surveillance Network and most of the samples have been stored at various EPA labs.
DATES OF SAMPLING: 1962 thru 1974
NUMBER OF SAMPLES: Museum Collection = 500 specimens, stored material = 400,000
RESULTS OF ANALYSES: Indicators of water pollution
SAMPLING METHODS: Grabs, artificial substrates, drift nets, and by hand.
TEMPORARY CONTAINER: Glass vials inside quart jars filled with ethanol.
TEMPORARY STORAGE PROCEDURES: Each species is stored in a separate vial from each sample and all the species from that station are together in a quart jar. These are stored in boxes. The museum specimens are on shelves.
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 70% ethanol, 95% pure
PERMANENT STORAGE CONDITIONS:
CONTAINER: Not in permanent storage.
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Badly needed is a place to store the many specimens so that they can be organized in such a way that they would be of use to scientists for study.

<525>
D.L. Deonier
Department of Zoology; Miami University; Oxford, OH 45056
(513) 529-5454

COLLECTION DESCRIPTION: Aquatic and terrestrial insect collection
Data and Specimens
PURPOSE OF COLLECTION: Reference collections
SAMPLING LOCATION:
STATE: Ohio; Kentucky; Pennsylvania; Indiana; Michigan
DATES OF SAMPLING: 1890-1978
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 80 percent ethanol for vial specimens
FUMIGATION: DDD and napthalene
PERMANENT STORAGE CONDITIONS:
CONTAINER: Standard insect museum cabinets
TEMPERATURE: Minimal
HUMIDITY: None
LIGHT EXPOSURE: Minimal
AVAILABILITY OF SAMPLES AND/OR DATA: Available to qualified professionals and graduate students

<526>
Charles H. Peterson
Dept. of Biology; Univ. of Maryland; Catonsville, MD 21228
(301) 455-2293

COLLECTION DESCRIPTION: Benthic invertebrates
Data Collection Only
PURPOSE OF COLLECTION: Study of spatial and temporal variability of benthic invertebrates in Southern California lagoons
SAMPLING LOCATION:
CITY: Oxnard; Imperial Beach
COUNTY: Ventura; San Deigo
STATE: California
GEOGRAPHICAL AREA: Mugu Lagoon; Tijuana Slough
DATES OF SAMPLING: July 1969 - July 1972
NUMBER OF SAMPLES: Mugu-589; Tijuana-467
RESULTS OF ANALYSES: Benthic core samples
SAMPLING METHODS: Hand dug using metal cylinder to keep sediment from covering in and a floating seive. Samples located by random numbers.
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Species list available

COMPONENT OF INTEREST: OTHER

<527>
Lewis Berner
Biological Sciences Div.; University of Florida;220 William Bartram Hall;Gainesville, FL 32611
(904) 392-1175

COLLECTION DESCRIPTION: Invertebrate (Mayfly) collection; water samples from freshwater lakes and rivers.
Data and Specimens
SCIENTIFIC NAME: Ephemeroptera
COMMON NAME: Mayflies
PURPOSE OF COLLECTION: Systematic, ecological, life history studies.
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Southeastern United States
DATES OF SAMPLING: 1937 - 1974
NUMBER OF SAMPLES: Several thousand
SAMPLING METHODS: Usual methods for collecting aquatic insects
TEMPORARY CONTAINER: Glass
TEMPORARY STORAGE PROCEDURES: Ethyl alcohol
DELAY BEFORE PERMANENT STORAGE: None
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    STORAGE MEDIA: Ethyl alcohol (95%)
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Loan

<528>
William B. Ezell, Jr.
Dept. of Biology; The Citadel; Citadel Campus; Charleston, SC 29409
(803) 723-0611, ext. 389 or 416

COLLECTION DESCRIPTION: Aquatic and terrestrial insects, mainly mosquitoes, deer flies and horse flies
Data and Specimens
SCIENTIFIC NAME: Mainly blooding-sucking Diptera especially Tabanidae and Culicidae
COMMON NAME: Mosquitoes, Deer Flies, and Horse Flies
PURPOSE OF COLLECTION: Studies on the Distribution of Diptera of medical importance
SAMPLING LOCATION:
    STATE: South Carolina
SAMPLING METHODS: Insect light traps, CO(2) baited traps, etc.
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<529>
Louis J. Metz
Southeastern Forest Experiment Station; U.S. Forest Service; P.O. Box 12254; Research Triangle Park, NC 27709
(919) 549-8193

COLLECTION DESCRIPTION: Slides and preserved specimens of mites(acarines)
Data and Specimens
PURPOSE OF COLLECTION: Reference collection
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Southeastern United States
PRESAMPLING CONDITIONS: Some forest areas had been burned or fertilized
DATES OF SAMPLING: 1962 to present
NUMBER OF SAMPLES: Several hundred slides and several hundred alcohol vials
RESULTS OF ANALYSES: Forest floor and soil samples for N, P, Ca and Mg
SAMPLING METHODS: Random sampling
TEMPORARY CONTAINER: Glass vials or larger containers
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass vials
    STORAGE MEDIA: 85% alcohol
STORAGE LIFE OF SAMPLE: approx. 10 years
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<530>
Paul H. Carlson
Dept. of Entomology;Florida A&M University;P.O. Box 111; 2026 Boatner Street;Tallahassee, FL 32307
(904) 222-8030, ext. 624; Home (904) 877-0480

COLLECTION DESCRIPTION: Aquatic, marine and terrestrial anthropods, primarily insects, largest comparative worldwide mayfly collection
Data and Specimens
PURPOSE OF COLLECTION: Taxonomic and ecological data
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1700's to present
NUMBER OF SAMPLES: Hundreds of thousands
SAMPLING METHODS: Various hand and machine methods of obtaining aquatic insects; dip nets, dredges, handscreen, light traps, sticky traps, sweep nets, drift nets, Dome samples, rock baskets, artificial substrates
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass vials and jars
    TEMPERATURE: Air conditioned
    LIGHT EXPOSURE: Dark storage
    STORAGE MEDIA: Ethyl alcohol (70-80%)
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: This is the largest existing mayfly collection in the world, in numbers of specimens. It is about the second largest mayfly collection in the world, in total number of species. It is a museum type of collection housed at Florida A&M University. This collection is maintained separately from the other two collections which are collections representing primarily all other insect groups and secondarily many other arthropod groups.

<531>
Philip E. Ode
Dept. of Biology;Theil College;Greenville, PA 16125
(412) 588-8238

COLLECTION DESCRIPTION: Aquatic and terrestrial arthropods
Specimens Only
SCIENTIFIC NAME: Musca autumnalis DeGeir, Tabanidae
COMMON NAME: Faceflies; horseflies; deerflies
PURPOSE OF COLLECTION: Teaching collection and personal synoptic collection
SAMPLING LOCATION:
    CITY: Ithaca, NY; Greenville, PA
    COUNTY: Thompkins, NY; Mercer, PA
    STATE: New York; Pennsylvania
DATES OF SAMPLING: 1960 - 1974
SAMPLING METHODS: Insect nets
TEMPORARY STORAGE PROCEDURES: Pinned or in 70% ethanol with 5% glycerine
PERMANENT STORAGE PREPARATION: Intact Storage
    FUMIGATION: Para-dichlorobenzene, naphtahalene, DDVP
    DRYING: Dried
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Insect boxes
AVAILABILITY OF SAMPLES AND/OR DATA: Available at Thiel

<532>

COMPONENT OF INTEREST: OTHER

<532>
F. Harvey Pough
Dept. of Ecology & Systematics;Langmuir Lab;Cornell University; Ithaca, NY 14850
(607) 256-4447

FORMAL NAME OF COLLECTION: Cornell University Herpetology Collection, Research Park, Ithaca, N.Y. 14850
COLLECTION DESCRIPTION: Amphibians and reptiles
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide; Eastern North America
DATES OF SAMPLING: Late 1800s to present
NUMBER OF SAMPLES: Approx. 10,000 specimens each of amphibians and reptiles
TEMPORARY CONTAINER: Not uniform
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formaldehyde and isopropyl alcohol
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass or plastic
STORAGE MEDIA: 50% isopropyl alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: On request to recognized institutions or authorities

<533>
Richard C. Reardon
North East Forest Experimental Station; US Forest Service; 151 Sanford St.; Hamden, CT 06514
(203) 772-0800, ext. 6154

FORMAL NAME OF COLLECTION: Melrose Collection
COLLECTION DESCRIPTION: Insect Collection
Data and Specimens
SCIENTIFIC NAME: Tachinidae, Ichneumonidae, Braconidae
PURPOSE OF COLLECTION: Museum Collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Northeastern United States
DATES OF SAMPLING: Approx. 1900 to 1940
SAMPLING METHODS: Collection of host material; foreign shipments
TEMPORARY CONTAINER: Insect cabinets
TEMPORARY STORAGE PROCEDURES: Pinned specimens
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Dried
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and data available

<534>
D.M. Tuttle
Experiment Station; University of Arizona; Yuma, AZ 85364
(602) 782-3836

COLLECTION DESCRIPTION: Collection of mites (Acarina)
PURPOSE OF COLLECTION: Reference and study
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Southwest United States
DATES OF SAMPLING: 1958 to present
NUMBER OF SAMPLES: 25,000 slides
SAMPLING METHODS: Berlese; beating; seive; field sample by leaves placed in collecting vials
TEMPORARY STORAGE PROCEDURES: 20% isopropyl alcohol; sugar (sorbitol); iodine crystals
DELAY BEFORE PERMANENT STORAGE: Days to few months
PERMANENT STORAGE CONDITIONS:
CONTAINER: Microscope slides
STORAGE MEDIA: Hoyer's media
AVAILABILITY OF SAMPLES AND/OR DATA: Available only to responsible specialists - not generally available to anyone

<535>
J. Keith Rigby
Dept. of Geology; Brigham Young University; Provo, UT 84601
(801) 374-1211, ext 2457

COLLECTION DESCRIPTION: Marine and freshwater sponges
Data and Specimens
PURPOSE OF COLLECTION: Reef ecology study
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Isle de Lobos; Mexico
DATES OF SAMPLING: July
NUMBER OF SAMPLES: Approx. 50
RESULTS OF ANALYSES: Sponges
SAMPLING METHODS: Picked from bottom
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Alcohol: concentrated
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass bottles
TEMPERATURE: Ambient
HUMIDITY: Ambient
LIGHT EXPOSURE: Ambient
AVAILABILITY OF SAMPLES AND/OR DATA: Loans possible

<536>
H.M. Graham
USDA, ARS; Entomology Research Laboratory; Cotton Insects Unit; P.O. Box 1033; Brownsville, TX 78520
(512) 542-2516

COLLECTION DESCRIPTION: Aquatic and terrestrial insects; Plants
Data and Specimens
PURPOSE OF COLLECTION: Identification
SAMPLING LOCATION:
STATE: Texas
DATES OF SAMPLING: 1945 to present
SAMPLING METHODS: Field collection
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Air dried

<537>
Eugene C. Devenport
Brigham Young University-Hawaii Campus, Box 138 Aloha Center; Laie, HI 96762
(808) 293-9211, ext. 384

COLLECTION DESCRIPTION: Invertebrate animals
Data and Specimens
PURPOSE OF COLLECTION: Reference collection
SAMPLING LOCATION:
STATE: Hawaii
GEOGRAPHICAL AREA: Tahiti; Tonga
NUMBER OF SAMPLES: 150
SAMPLING METHODS: Random
TEMPORARY CONTAINER: ETOH, formaldehyde
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Alcohol· formaldehyde
AVAILABILITY OF SAMPLES AND/OR DATA: Available on request
ADDITIONAL INFORMATION: Probably of minimal value

COMPONENT OF INTEREST: OTHER

<538>
H. Evans
Dept. of Zoology and Entomology; Colorado State University; Fort Collins, CO 80521
(303) 491-5365

COLLECTION DESCRIPTION: Extensive insect collection
Data and Specimens
PURPOSE OF COLLECTION: Research and identification
SAMPLING LOCATION:
STATE: Colorado
DATES OF SAMPLING: 1950 to present
NUMBER OF SAMPLES: Approx. 300, 000
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Napthalene, PDB, vapora strips
DRYING: Yes
PERMANENT STORAGE CONDITIONS:
CONTAINER: Wood, metal, plastic
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens can be studied here or borrowed by mail by qualified scientists

<539>
H.R. Moffitt
Agricultural Research Service; 3706 West Nob Hill Blvd.; Yakima, WA 98902
(509) 248-4810, ext. 341

COLLECTION DESCRIPTION: Insects
Data and Specimens
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Pacific Northwest United States
DATES OF SAMPLING: 1916 to present
AVAILABILITY OF SAMPLES AND/OR DATA: Available after discussion with individual researches.

<540>
Rae E. Baxter
Alaska Dept. of Fish & Game;Box 90;Bethel, AK 99559
(907)543-2433

COLLECTION DESCRIPTION: Mollusk shells
Data and Specimens
SCIENTIFIC NAME: Mollusca
PURPOSE OF COLLECTION: Taxonomy
SAMPLING LOCATION:
STATE: Alaska
GEOGRAPHICAL AREA: Northeast Pacific Ocean
DATES OF SAMPLING: 1957 to present
NUMBER OF SAMPLES: Thousands
SAMPLING METHODS: Hand collect; dredge
TEMPORARY CONTAINER: Paint, plastic, metal boxes
PERMANENT STORAGE PREPARATION: Intact Storage
OTHER: Body removed from shells
AVAILABILITY OF SAMPLES AND/OR DATA: Availble to specialists

<541>
W.A. Iselin
New Mexico Dept. of Agriculture; New Mexico State University;Las Cruces, NM 88003
(505) 646-3207

COLLECTION DESCRIPTION: Insect collection
Specimens Only
PURPOSE OF COLLECTION: Economics and special interest
SAMPLING LOCATION:
STATE: New Mexico
DATES OF SAMPLING: 1900 - to present
NUMBER OF SAMPLES: 10,000
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: On loan - specimens for determination

<542>
James Green
North Carolina Dept of Agriculture; Pest Control Division; Agriculture Bldg. Capitol Square; Raleigh, NC 27601
(919) 829-3556

COLLECTION DESCRIPTION: Insect collection
Data and Specimens
PURPOSE OF COLLECTION: State collection
SAMPLING LOCATION:
STATE: North Carolina
DATES OF SAMPLING: 1900 to present
NUMBER OF SAMPLES: 150, 000
RESULTS OF ANALYSES: Preserved Insects
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Dried
PERMANENT STORAGE CONDITIONS:
CONTAINER: Insect specimens in museum drawers, naphtahalene present
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Air; naphtahalene
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and data available

<543>
Alan J. Kohn
Dept. of Zoology; University of Washington; Seattle, WA 98195
(206) 543-1629

FORMAL NAME OF COLLECTION: Thomas Burke Memorial Washington State Museum
COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial mollusks
Specimens Only
SCIENTIFIC NAME: General Mollusca Conus
PURPOSE OF COLLECTION: Museum collection; reference and research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Pacific Northwest United States (terrestrial); Northeast Pacific (marine); Indo-West Pacific; Pacific rim
DATES OF SAMPLING: Early 1900's to present
NUMBER OF SAMPLES: Approx. 25,000 lots
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Mainly 70% ethanol and 5% glycerin
RADIATION: Some specimens are from Eniwetok Atoll
PERMANENT STORAGE CONDITIONS:
CONTAINER: Cardboard and wooden trays in steel cabinets
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<544>

COMPONENT OF INTEREST: OTHER

<544>
John A. Wagner
Dept. of Biology; Kendall College; Evanston, IL 60204
(312) 869-5240, ext. 212

COLLECTION DESCRIPTION: Beetles (Pselaphids)
Data and Specimens
PURPOSE OF COLLECTION: Museum taxonomic collection for systematic research
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Southeastern United States
PRESAMPLING CONDITIONS: Usually from areas not disturbed by man
DATES OF SAMPLING: 1957 to present
NUMBER OF SAMPLES: Approx. 2,000
SAMPLING METHODS: Berlese funnel extraction to ethyl alcohol
TEMPORARY CONTAINER: 95% ETOH in glass
DELAY BEFORE PERMANENT STORAGE: 2 months to 10 years
PERMANENT STORAGE PREPARATION: Intact Storage
    FUMIGATION: Paradichlorbenzene
    DRYING: Air
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Ambient
    LIGHT EXPOSURE: Dark
    STORAGE MEDIA: Air
ADDITIONAL INFORMATION: Individual specimens are small, 1.5 mm total length. Pselaphids are in general good index species for natural ecosystems, ie, prairies, bogs, beech-maple forest.

<545>
L. Duane Thurman
Dept. of Natural Sciences;Oral Roberts University;7777 S. Lewis; Tulsa, OK 74105
(918) 742-6161

COLLECTION DESCRIPTION: Invertebrates: Spiders, insects, freshwater clams, Terrestrial tracheophytes and spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: General inventory of local flora and fauna
SAMPLING LOCATION:
    CITY: Tulsa; Bentonville, AR
    COUNTY: Tulsa
    STATE: Oklahoma; Arkansas
DATES OF SAMPLING: Clams: 1970 to 1974; Insects and Spiders: 1972 - 1974; Plants: 1974
STORAGE LIFE OF SAMPLE: Decades
AVAILABILITY OF SAMPLES AND/OR DATA: Upon request
ADDITIONAL INFORMATION: We have a more or less routine collection of flora and fauna rather than samples collected for trace analysis, etc.

<546>
David G. Fellin
Project Leader;U.S. Department of Agriculture;Forestry Sciences Laboratory, Drawer G;Missoula, MT 59801
(406) 549-6511, ext. 3212

COLLECTION DESCRIPTION: Insects particularly Coleoptera, Lepidotera, and Hymenoptera
Data and Specimens
PURPOSE OF COLLECTION: Forest insect survey and research reference collection
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Northern Rocky Mountain Forests; United States
DATES OF SAMPLING: 1919 to 1974
SAMPLING METHODS: Beating, rearing, etc.
PERMANENT STORAGE PREPARATION: Intact Storage
    FUMIGATION: Paradichlorobenzene
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Data and samples are available by writing to curator

<547>
J.A. Onsager
Rangeland Insect Laboratory; U.S. Dept. of Agriculture; Agricultural Research Service; Montana State University; Bozeman, MT 59715
(406) 994-3344; FTS(406) 587-4511

COLLECTION DESCRIPTION: Grasshoppers
Data and Specimens
PURPOSE OF COLLECTION: Reference collection
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Western United States
DATES OF SAMPLING: 1930 to present
NUMBER OF SAMPLES: Approx. 150 species
TEMPORARY CONTAINER: Unknown and variable
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: Dried
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Wood Cornell drawers
    TEMPERATURE: Room temperature
    HUMIDITY: Ambient
    LIGHT EXPOSURE: Dark
AVAILABILITY OF SAMPLES AND/OR DATA: Available for non-destructive purposes

<548>
Carleton M. Clifford; James E. Keirans
National Institute of Allergy &; Infectious Diseases; Rocky Mountain Laboratory; Hamilton, MT 59840
(406) 363-1

COLLECTION DESCRIPTION: Ticks
Data and Specimens
SCIENTIFIC NAME: Acarina: Ixodoidea, Argasidae, Ixodidae
COMMON NAME: Ticks
PURPOSE OF COLLECTION: Collection
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: Early 1900's to present
NUMBER OF SAMPLES: Approx. 800 species
TEMPORARY CONTAINER: Glass jars containing 70% ETOH
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens available for study by qualified experts
ADDITIONAL INFORMATION: This is the largest most complete tick collection in the world.

<549>
Carma Gilligan
U.S. Forest Service; Federal Building; Missoula, MT 59801
(406) 594-6511, ext. 3242

COLLECTION DESCRIPTION: Forest insects
Data and Specimens
PURPOSE OF COLLECTION: To aid in forest insect identification and document collection of specimens
SAMPLING LOCATION:
    STATE: Montana; Idaho; Washington; North Dakota; Wyoming
DATES OF SAMPLING: 1950 to present
NUMBER OF SAMPLES: Several thousand
SAMPLING METHODS: Standard
PERMANENT STORAGE PREPARATION: Intact Storage
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<550>
Jerry A. Powell
Dept. of Entomology;University of California;
Berkeley, CA 94720
(415) 642-1327

FORMAL NAME OF COLLECTION: Essig Museum of Entomology
COLLECTION DESCRIPTION: Aquatic and terrestrial insects
Data and Specimens
PURPOSE OF COLLECTION: Systematic raw data resource, California Insect Survey, and teaching
SAMPLING LOCATION:
STATE: California
GEOGRAPHICAL AREA: Western United States; Mexico; Central America
DATES OF SAMPLING: 1914 to present
NUMBER OF SAMPLES: 2, 800, 000
SAMPLING METHODS: Aerial nets, flight traps, light attraction, traps, Berlese traps, pheromone traps; rearing larvae
TEMPORARY CONTAINER: cellucotton flats with PDB or freezing
TEMPORARY STORAGE PROCEDURES: Pressed
DELAY BEFORE PERMANENT STORAGE: 0-10 years
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Napthalene or paradichlorobenzene
PERMANENT STORAGE CONDITIONS:
CONTAINER: Ethyl alcohol or formalin mixture or dry on pins in drawers
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: yes, We loaned 128, 000 specimens to outside specialists during past 10 years

<551>
Marius S. Wasbauer
California Dept. of Food and Agriculture;1220 N. St.;Sacramento, CA 95814
(916)445-4521

COLLECTION DESCRIPTION: Aquatic and terrestrial arthropods
Data and Specimens
PURPOSE OF COLLECTION: California
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Northeastern Arctic
TEMPORARY STORAGE PROCEDURES: Adult arthropods: killed in NaCN or Ca(CN)2 and stored in air; Immatures: killed in alcohol or boiling H20 stored in 70% isopropanol
DELAY BEFORE PERMANENT STORAGE: 2 wks to 1 yr
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Isopropyl alcohol 70% technical grade
FUMIGATION: Paradichlorobenzene
LYPHYLIZATION: A few immature insects
DRYING: Air drying for most adult insects
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass vials for alcohol storage; cardboard units with polyethylene foam bottoms for most
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Air, 70% isopropanol
AVAILABILITY OF SAMPLES AND/OR DATA: Available on loan to qualified researchers. If specimens to be destroyed for analysis, only one or limited series will be available

<552>
S.A. Sher
Dept. of Nematology;Univ. of California;Riverside, CA 92502
(714) 787-4435; (714) 787-4432

COLLECTION DESCRIPTION: Soil Samples; freshwater and marine nematodes
Data and Specimens
SCIENTIFIC NAME: Phylum Nematoda
COMMON NAME: Nematodes
PURPOSE OF COLLECTION: Research, teaching and museum collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
PRESAMPLING CONDITIONS: Many collections from specific agricultural soils
DATES OF SAMPLING: 1950 to present
SAMPLING METHODS: Specimens extracted from soil usually by soil screens
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formalin 5%
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass vials
STORAGE MEDIA: Formaldehyde
STORAGE LIFE OF SAMPLE: Permanent
AVAILABILITY OF SAMPLES AND/OR DATA: Available to researchers and qualified students

<553>
J. Gordon Edwards
Dept. of Entomology;San Jose State University;San Jose, CA 95114
(408) 277-3002; Home (408) 258-1433

COLLECTION DESCRIPTION: All orders of insects and their larvae
Data and Specimens
PURPOSE OF COLLECTION: Taxonomy, systematics, and ecology
SAMPLING LOCATION:
STATE: California; Washington; Oregon; Montana
DATES OF SAMPLING: 1930 - 1974
NUMBER OF SAMPLES: Approx. 300, 000
RESULTS OF ANALYSES: All orders of insects and their larvae
SAMPLING METHODS: Nets, traps, and by hand
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: yes, except larvae
PERMANENT STORAGE CONDITIONS:
CONTAINER: Wood
STORAGE MEDIA: Larvae in alcohol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Loaned for scientific purposes to other institutions or individuals

<554>

COMPONENT OF INTEREST: OTHER

<554>
William Lyons
Florida Dept. of Natural Resources; Marine Research Laboratory; 100 8th Ave. SE; St. Petersburg, FL 33701
(813) 896-8626

COLLECTION DESCRIPTION: Aquatic and marine invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Reference collection of invertebrates of Gulf and Atlantic waters of Florida and other locations
SAMPLING LOCATION:
STATE: Florida
GEOGRAPHICAL AREA: Gulf of Mexico; Atlantic Ocean
DATES OF SAMPLING: Mid 1950 to present
SAMPLING METHODS: Net, trawl, hand
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Formalin fixation (10%)
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: Storage in glass jars w/70% ethanol after formalin fixation
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<555>
Norman J. Fashing
College of William and Mary; Williamsburg, VA 23185
(804) 229-3000 ext. 240

COLLECTION DESCRIPTION: Aquatic and terrestrial insects
Data and Specimens
PURPOSE OF COLLECTION: Teaching and reference collection
SAMPLING LOCATION:
CITY: James City
COUNTY: York
STATE: Virginia
DATES OF SAMPLING: Fall 1973 to present
SAMPLING METHODS: Nets
PERMANENT STORAGE CONDITIONS:
CONTAINER: Insect cabinets

<556>
Armand Kuris
Institute of Marine Sciences; UNC-CH; Morehead City, NC 28557
(919) 726-6841

COLLECTION DESCRIPTION: Aquatic and marine crustaceans
Data and Specimens
PURPOSE OF COLLECTION: Repository for North Carolina collected specimens, data source for taxonomic studies, educational collection of identified specimens.
SAMPLING LOCATION:
STATE: North Carolina
DATES OF SAMPLING: 1948 - 1974
NUMBER OF SAMPLES: 2,742 catalogued entries - unknown number of specimens
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 4% formaldehyde
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass bottles
STORAGE MEDIA: 70% ethyl alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Specimens may be borrowed or viewed by qualified carcinologists or ecologists. Data is available on asking.

<557>
James E. Gillaspy
Box 158; Dept. of Biology; Texas A&I University; Kingsville, TX 78363
(512) 595-3803

COLLECTION DESCRIPTION: Aquatic and marine insects
Data and Specimens
PURPOSE OF COLLECTION: Reference and teaching
SAMPLING LOCATION:
STATE: Texas
GEOGRAPHICAL AREA: South Texas; Rio Grande Plain; Northern Mexico
DATES OF SAMPLING: 1966 to present
NUMBER OF SAMPLES: 17,000
SAMPLING METHODS: Standard
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Metal and wood
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available for examination or loan

<558>
Bill Calloway
Texas Instruments, Inc.; P.O. Box 5621, M/S 949; Dallas, TX 75222
(214) 238-4221

COLLECTION DESCRIPTION: Aquatic benthic organisms; Data from aquatic bottom sediment samples
Data and Specimens
PURPOSE OF COLLECTION: Siting studies for power plants
SAMPLING LOCATION:
CITY: Dunkirk
STATE: New York
GEOGRAPHICAL AREA: Lake Erie; Lake Michigan; Connecticut River
SAMPLING METHODS: Ponar Grab, qualitative dip net, stream drift nets
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: 4% buffered formalin
STORAGE LIFE OF SAMPLE: 3-5 years (approx.)
ADDITIONAL INFORMATION: Upon completion of a formal species list, a copy will be available

<559>
Arwin V. Provonsha
Dept. of Entomology; Purdue University; West Lafayette, IN 47906
(317) 493-9180

COLLECTION DESCRIPTION: Arthropods
Specimens Only
PURPOSE OF COLLECTION: Museum collection
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Midwestern United States; Worldwide
DATES OF SAMPLING: 1880 to present
NUMBER OF SAMPLES: 900, 000
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: PDB
OTHER: Dry; alcohol; slides
AVAILABILITY OF SAMPLES AND/OR DATA: Loan

COMPONENT OF INTEREST: OTHER

<560>
Samuel L.H. Fuller
Dept. of Limnology; Academy of Natural Sciences of Philadelphia; 19th Street and the Parkway;
Philadelphia, PA 19103
(215) 567-3700, ext. 336

COLLECTION DESCRIPTION: Parasites of most vertebrate and invertebrate phyla including humans
Data and Specimens
PURPOSE OF COLLECTION: Research and voucher specimens
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: Early 19th century to present
NUMBER OF SAMPLES: Thousands
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: Room temperature or above
HUMIDITY: None
LIGHT EXPOSURE: Minimal to dark
STORAGE MEDIA: Usually 70% ethanol
STORAGE LIFE OF SAMPLE: Permanent
AVAILABILITY OF SAMPLES AND/OR DATA: Subject only to normal generous ANSP loan procedures

<561>
Donely Hill
TVA Forestry, Fisheries and Wildlife Development Laboratory; Norris, TN 37838
(615) 494-7173, ext. 244

COLLECTION DESCRIPTION: Aquatic insect larvae; macroinvertebrate benthic organisms
Data and Specimens
PURPOSE OF COLLECTION: Productivity related to fisheries
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Norris, Chilhowee, South Holston, Blue Ridge, Nottley, Tim's Ford, and Cherokee Tailwaters; Duck, north, south, and middle fork Holston, and Buffalo Rivers
DATES OF SAMPLING: 1972 to present
NUMBER OF SAMPLES: Approx. 1,000
RESULTS OF ANALYSES: Aquatic insect larva and other macroinvertebrates
SAMPLING METHODS: Surber sampler 1 sq. ft.
TEMPORARY STORAGE PROCEDURES: Contents of Surber sampler preserved in formaldehyde
OTHER: Invertebrates picked from samples
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
STORAGE MEDIA: 70% Alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Available, subject pre-publication restrictions

<562>
Fred G. Thompson
Dept. of Malacology; Florida State Museum;
Gainesville, FL 32601
(904) 392-1721

COLLECTION DESCRIPTION: Aquatic, marine, and terrestrial invertebrates
Data and Specimens
SCIENTIFIC NAME: Mollusca
PURPOSE OF COLLECTION: Systematics, ecology, biogeography
SAMPLING LOCATION:
GEOGRAPHICAL AREA: New world temperate and tropical
NUMBER OF SAMPLES: 1910 to present
SAMPLING METHODS: Selective selection of site in field; selective gathering of specimens in field
DELAY BEFORE PERMANENT STORAGE: 1 day or less
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Shells dried
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass; polyethylene
TEMPERATURE: Air conditioning approx. 25 degrees C
HUMIDITY: Air conditioning
LIGHT EXPOSURE: Interior fluorescent lighting
STORAGE MEDIA: Isopropyl alcohol for preserved specimens; air for dry shells
AVAILABILITY OF SAMPLES AND/OR DATA: Available upon request

<563>
Sally Dennis
TVA Forestry, Fisheries and Wildlife Development Laboratory; Norris, TN 37838
(615) 494-7173, ext. 243

COLLECTION DESCRIPTION: Freshwater mollusks
Data and Specimens
PURPOSE OF COLLECTION: Survey of distribution in Clinch, Powell and Holston drainage. Standing crop estimates.
SAMPLING LOCATION:
STATE: Tennessee; Virginia
GEOGRAPHICAL AREA: Clinch River; Powell River; Holston River, North Fork
DATES OF SAMPLING: Late summer and fall of 1973 and 1974
SAMPLING METHODS: Collected by hand
TEMPORARY CONTAINER: Cloth bag in cooler with ice.
TEMPORARY STORAGE PROCEDURES: Kept on ice and brought back to lab alive
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Relaxed in propylene phenoxytol, Fixed in Bouins Solution, stored in 70% alcohol
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: 70% alcohol
STORAGE LIFE OF SAMPLE: Indefinite
ADDITIONAL INFORMATION: Species list available

<564>

COMPONENT OF INTEREST: OTHER

<564>
Richard M. Johnson
Wisconsin Dept. of Natural Resources;Box D;Horicon, WI 53032
(414) 485-4434

FORMAL NAME OF COLLECTION: Rock River macro-invertebrate reference collection
COLLECTION DESCRIPTION: Aquatic invertebrates, mostly insects
Data and Specimens
PURPOSE OF COLLECTION: Measure change in invertebrate populations due to carp removal
SAMPLING LOCATION:
COUNTY: Dodge; Jefferson
STATE: Wisconsin
GEOGRAPHICAL AREA: Rock River drainage
PRESAMPLING CONDITIONS: Drainage had not been previously sampled to my knowledge
DATES OF SAMPLING: Several dates between 1971 and 1974
NUMBER OF SAMPLES: 210
RESULTS OF ANALYSES: Most invertebrates are from class insecta
SAMPLING METHODS: Surber sampler and artificial substrates
TEMPORARY CONTAINER: Polyethylene
TEMPORARY STORAGE PROCEDURES: Sample was placed in bottle with 10% formalin until picking could take place
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Acetic Acid - formaldehyde - alcohol
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Data is presented in annual reports on the project. Reference collection is held at Horicon and may be observed there.
ADDITIONAL INFORMATION: Annual reports on the Rock River project are available from Wisc. Dept. of Natural Resources, Box 450, Madison, Wisc. 53701 c/o Ruth Hine

<565>
Bill Calloway
Texas Instruments, Inc.; P.O. Box 5621, M/S 949; Dallas, TX 75222
(214) 238-4221

COLLECTION DESCRIPTION: Aquatic invertebrates, zooplankton; water samples from freshwater lakes and rivers
Data and Specimens
PURPOSE OF COLLECTION: Client contracts; AEC 4.2 work and EPA variance, environmental surveys
SAMPLING LOCATION:
CITY: Northfield, Montague, and Maromas, CT; Detroit, MI; Kingston, NJ
STATE: Connecticut; Michigan; New York
GEOGRAPHICAL AREA: Connecticut River; St. Clair River; Hudson River; Lake Michigan
PRESAMPLING CONDITIONS: Available on request
DATES OF SAMPLING: 1973
SAMPLING METHODS: 1/2 mm 333 micron plankton net, 1m epibenthic sleds, 1 M Tucker trawl and 1/2 M 76 micron plankton net. Horizontal tows and vertical hauls
TEMPORARY STORAGE PROCEDURES: 40 ml 4% buffered formalin for each 1000 ml sample
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 4% buffered formalin
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: 4 degrees C
STORAGE LIFE OF SAMPLE: Approx. 5 years
AVAILABILITY OF SAMPLES AND/OR DATA: Variable, depends upon client clearance
ADDITIONAL INFORMATION: Species lists appear in TI technical publications. Publications and release of information by TI is contingent upon contractual agreement with clients. Once environmental reports are filed, the contents are public record.

<566>
Robert Winget
Center for Health & Environmental Studies;Brigham Young University;706 Widtsoe Bldg;Provo, UT 84601
(801) 374-1211, ext. 3991

COLLECTION DESCRIPTION: Aquatic insects; River water samples
Data and Specimens
PURPOSE OF COLLECTION: To determine relationship of habitats with community structure
SAMPLING LOCATION:
STATE: Utah
DATES OF SAMPLING: 1970 to present
NUMBER OF SAMPLES: Nearly 1,000
SAMPLING METHODS: Variable, mostly nets
TEMPORARY CONTAINER: Glass vials with rubber seal lids
DELAY BEFORE PERMANENT STORAGE: 1 to 6 mo.
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 5% Formalin and 70% Ethanol, Reagent Grade
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass with rubber seal lid or glass vial with rubber or cork stopper
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Dark
STORAGE MEDIA: 70% ethanol
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Limited availability - depends on use and amounts required

<567>
Donald Tarter
Marshall University; Dept. of Biology; Huntington, WV 25701
(304) 696-2409

FORMAL NAME OF COLLECTION: West Virginia Benthological Survey
COLLECTION DESCRIPTION: Aquatic invertebrates, including mayflies, caddisflies, and megalopterans
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
STATE: West Virginia
DATES OF SAMPLING: 1969 to present
SAMPLING METHODS: Surber Sampler, Ekman Dredge
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass vials
STORAGE MEDIA: 70% ethanol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: 30 day loans

COMPONENT OF INTEREST: OTHER

<568>
Brenda Leistikow
College of Fisheries;260 Fisheries Center;University of Washington;Seattle, WA 98105
(206) 543-7838

COLLECTION DESCRIPTION: Aquatic and marine invertebrates
Specimens Only
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
STATE: Washington; Alaska
GEOGRAPHICAL AREA: British Columbia Coast
DATES OF SAMPLING: 1930 to present
NUMBER OF SAMPLES: 220
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
STORAGE MEDIA: 70% ETOH plus 5% glycerin
AVAILABILITY OF SAMPLES AND/OR DATA: Very limited
ADDITIONAL INFORMATION: This collection is primarily an aid to in-college researchers, although I am willing to exchange information or specimens on a person-to-person basis.

<569>
Stanley Longfellow; Harold G. Nagel
Dept. of Biology; Kearney State College; Kearney, NB 68847
(308) 236-4074

COLLECTION DESCRIPTION: Aquatic and terrestrial insects
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research collections
SAMPLING METHODS: Aerial; Berlese funnels; Chemical traps; Light traps
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Kahle's Solution; Formalin; alcohol
FUMIGATION: Paradichlorobenzene
PERMANENT STORAGE CONDITIONS:
CONTAINER: Steel cabinets; glass vials
TEMPERATURE: Room temperature
HUMIDITY: Little
LIGHT EXPOSURE: Minimal
AVAILABILITY OF SAMPLES AND/OR DATA: Always available

<570>
John Foley
Biological Monitoring; South Carolina Dept. of Health and Environmental Control; 2600 Bull St.; Columiba, SC 29201
(803) 758-3499

COLLECTION DESCRIPTION: Aquatic insects
Data and Specimens
PURPOSE OF COLLECTION: Reference
SAMPLING LOCATION:
STATE: South Carolina
DATES OF SAMPLING: May-Sept.
NUMBER OF SAMPLES: 300
SAMPLING METHODS: Hester-Dendy multiplate sampler
TEMPORARY CONTAINER: 90% ETOH; 1% rose bengal; 9% H(2)O
TEMPORARY STORAGE PROCEDURES: Organism straight to preservative
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
CONTAINER: One dram glass vials
TEMPERATURE: Room temperature
HUMIDITY: Ambient
LIGHT EXPOSURE: Ambient
STORAGE MEDIA: 100% isoprophyl alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: With permission of SCDHEC

<571>
Robert A. Sweeney
Great Lakes Laboratory; State University College; 1300 Elmwood Ave.; Buffalo, NY 14222
(716) 862-5821

COLLECTION DESCRIPTION: Benthic aquatic macroinvertebrates; lake and river bottom sediments; eutrophic and oligotrophic lake water and river water samples
Data and Specimens
SCIENTIFIC NAME: Annelida; Sphaeriidae; Chironomidae; Isopoda; Amphipoda
PURPOSE OF COLLECTION: Reference
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Lake Ontario; Lake Erie; Niagara River
DATES OF SAMPLING: Lake Ontario 1972 to 1973; Lake Erie 1973 to 1974
NUMBER OF SAMPLES: Approx. 1700
RESULTS OF ANALYSES: Sieved sediment
SAMPLING METHODS: Ponar dredge is emptied into plastic pans, then sieved through a set of U.S. Standard sieves, the smallest of which is a #30, with lake water. The resultant residue is placed in glass jars and preserved. Organisms are picked out, placed in vials and preserved with neutral formalin and glycerine. In the process of transferring to 70% ethanol for longer sample life.
PERMANENT STORAGE PREPARATION: Fractionated
PERMANENT STORAGE CONDITIONS:
LIGHT EXPOSURE: Class room
STORAGE MEDIA: 10% formalin, 5% glycerine
STORAGE LIFE OF SAMPLE: Not known
AVAILABILITY OF SAMPLES AND/OR DATA: Both available

<572>
Samuel L.H. Fuller
Academy of Natural Sciences of Philadelphia; 19th Street and the Parkway; Philadelphia, PA 19103
(215) 567-3700, ext. 336

COLLECTION DESCRIPTION: Aquatic and marine invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Research; voucher specimens for records in consulting reports on aquatic quality
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Eastern North America; United States
DATES OF SAMPLING: 1948 to present
NUMBER OF SAMPLES: Thousands
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
TEMPERATURE: Room temperature
HUMIDITY: None
LIGHT EXPOSURE: Minimal
STORAGE MEDIA: Usually 70% ethanol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Subject only to ANSP loan procedures

<573>

COMPONENT OF INTEREST: OTHER

<573>
Allen W. Knight
Dept. of Water Science and Engineering;University of California, Davis;Davis, CA 95616
(916) 752-0692

COLLECTION DESCRIPTION: Aquatic insects, stoneflies; mayflies; caddisflies; megaloptera; diptera; coleoptera; odonata; estuarine invertebrates, mysid shrimp; opossum shrimp, estuarine and river water samples
Data and Specimens
PURPOSE OF COLLECTION: Baseline evaluation of aquatic ecosystems; research on tolerance
SAMPLING LOCATION:
    CITY: Sacramento
    COUNTY: Yolo; Nevada
    STATE: California; Michigan
    GEOGRAPHICAL AREA: San Joaquin Delta; Putah Creek Watershed; Sagehen Creek
DATES OF SAMPLING: Insects: 1972 to present; Shrimp: 1974 to present
NUMBER OF SAMPLES: Biweekly samples
SAMPLING METHODS: Hand screen; surber square foot sampler; can sampler; tow net-Delta
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass vials
    STORAGE MEDIA: Formaldehyde 10%; alcohol 70-90%
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Limited and by request

<574>
Leopoldo E. Caltagirone
Division of Biological Control;University of California-Berkeley; 1050 San Pablo Avenue;Albany, CA 94706
(415) 642-7191

COLLECTION DESCRIPTION: Predaceous and parasitic terrestrial insects
Data and Specimens
SCIENTIFIC NAME: Pentalitomastix plethoricus Caltagirone (Hymenoptera Encyrtidae); Haplotrips sp. (Thysanoptera Aeolothripidae); Parasierola; sp. (Hymenoptera Bethylidae)
PURPOSE OF COLLECTION: Importation, mass culture, and colonization for control of insect pests
SAMPLING LOCATION:
    STATE: Texas
    GEOGRAPHICAL AREA: Mexico
DATES OF SAMPLING: 1963; 1973
RESULTS OF ANALYSES: Predaceous, and parasitic (protelean) insects
SAMPLING METHODS: Collection of the parasitized host, or direct collection of different stages (eggs, nymphs, adults) or predators
TEMPORARY CONTAINER: Various rearing cages for the live specimens, conventional insect collection cages for dead specimens
TEMPORARY STORAGE PROCEDURES: Mass culture of Paramyelois transitella (Walker) and Anagasta kuehniella (Zeller), both Lepidoptera Pyralidae, which are used hosts or prey for the species in culture
PERMANENT STORAGE PREPARATION: Intact Storage
    OTHER: Specimens pinned or slide mounted for permanent storage Permanent Storage Conditions, if applicable
PERMANENT STORAGE CONDITIONS:
    CONTAINER: conventional insect cabinets
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<575>
Warren U. Brigham
Dept. of Aquatic Biology; Illinois Natural History Survey; Natural Resources Bldg.; Urbana, IL 61801
(217) 333-6889

COLLECTION DESCRIPTION: Aquatic insects, principally coleoptera
Data and Specimens
PURPOSE OF COLLECTION: Museum collection primarily for taxonomic study, but much ecological information is available.
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: United States
DATES OF SAMPLING: 1945 to present
NUMBER OF SAMPLES: 60,000 to 70,000 specimens, mostly Coleoptera
SAMPLING METHODS: Trial and error to locate sites yielding the greatest species diversity
TEMPORARY CONTAINER: Glass vials or nalgene bottles
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: 70% ethanol
    FUMIGATION: Paradichlorobenzene
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass vial with neoprene stopper or pinned in standard insect drawer
    TEMPERATURE: Room air conditioner
    LIGHT EXPOSURE: Closed cabinets
    STORAGE MEDIA: 70% ethanol or air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available for study with usual museum loan rules
ADDITIONAL INFORMATION: Some exotic materials available

<576>
Kenneth B. Armitage
Dept. of Biology; The University of Kansas: 2619 Belle Crest Drive; Lawrence, KS 66044
(913) 864-4373

COLLECTION DESCRIPTION: Zooplankton and eutrophic lake water
Data and Specimens
SCIENTIFIC NAME: Daphnia; Diaptomus
PURPOSE OF COLLECTION: Study of zooplankton population dynamics
SAMPLING LOCATION:
    CITY: Lawrence
    COUNTY: Douglas; Leavenworth
    STATE: Kansas
    GEOGRAPHICAL AREA: Leavenworth County State Lake; Gage Pond
DATES OF SAMPLING: 1957 to 1958; 1959; 1966 to 1967
NUMBER OF SAMPLES: Over 100
SAMPLING METHODS: Clarke-Bumpus Plankton Sampler
TEMPORARY CONTAINER: Plastic bottles
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass vials
    TEMPERATURE: Room temperature
    STORAGE MEDIA: Alcohol-formalin
AVAILABILITY OF SAMPLES AND/OR DATA: Some actual samples could be made available

<577>
Walter J. Harman
Dept. of Zoology & Physiology;Louisiana State University;Baton Rouge, LA 70803
(504) 388-1132

COLLECTION DESCRIPTION: Collection of aquatic and terrestrial invertebrates, specifically oligochaetes.
Data and Specimens
PURPOSE OF COLLECTION: Ecology and distribution
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide; Western Hemisphere
DATES OF SAMPLING: 1961 to present
NUMBER OF SAMPLES: 5,000
TEMPORARY CONTAINER: Slides
TEMPORARY STORAGE PROCEDURES: Dehydration
PERMANENT STORAGE CONDITIONS:
    STORAGE MEDIA: Harleco's synthetic resin
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<578>
Charles B. Wurtz
3220 Penn St.; Philadelphia, PA 19129
(215) 848-7461

COLLECTION DESCRIPTION: Aquatic invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Identification of macroinvertebrate communities
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: United States
DATES OF SAMPLING: 1955 to present
TEMPORARY STORAGE PROCEDURES: Collected into either methanol or formaldehyde in glass (chiefly) or plastic containers
DELAY BEFORE PERMANENT STORAGE: Variable to several months
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Storage in glass vials with methanol
AVAILABILITY OF SAMPLES AND/OR DATA: An outside researcher would be welcomed if competent. Must be studied here, although researcher would be welcome to select and remove
ADDITIONAL INFORMATION: The collections have been made for various interests (industrial) during pollution (chiefly) surveys. I lack personnel to curate the material and most is in "dead" storage. If someone of substance is interested, they are welcome to look at the material and draw subsamples from it. Collections are limited to qualitative identification of macroinvertebrates (aquatic) and the specimens used. Appointments must be made. Only available for academic studies, i.e., excluding enforcement branch of governmental agencies or persons representing such interests.

<579>
Robert L. Newell
P.O. Box 1063; Glendive, MT 59330
(406) 365-3728

COLLECTION DESCRIPTION: Aquatic invertebrates including mayflies, stoneflies, caddisflies, dragonflies, flies, bugs, and beetles
Data and Specimens
PURPOSE OF COLLECTION: To determine aquatic insect fauna of Montana and S.E. Idaho
SAMPLING LOCATION:
    STATE: Montana; Idaho
PRESAMPLING CONDITIONS: Only scattered records available, no intense sampling
DATES OF SAMPLING: 1966 - 1973
NUMBER OF SAMPLES: 400
SAMPLING METHODS: Nets, oil traps, picking
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass vials
    TEMPERATURE: Room temperature
    HUMIDITY: None
    LIGHT EXPOSURE: Dark
    STORAGE MEDIA: 70% ethanol
STORAGE LIFE OF SAMPLE: Indefinitely
AVAILABILITY OF SAMPLES AND/OR DATA: All samples available
ADDITIONAL INFORMATION: This is a large collection of aquatic invertebrates containing the following groups: Ephemeroptera (mayflies), Plecoptera (stoneflies), Trichoptera (caddisflies), Odonata (dragonflies), Diptera (flies), Hemiptera (bugs), Coleoptera (beetles)

<580>
Ke Chung, Kim
The Frost Entomological Museum; Penn State University; 201 Patterson Bldg.; University Park, PA 16802
(814) 865-1895

COLLECTION DESCRIPTION: Aquatic and terrestrial arthropods
Data and Specimens
PURPOSE OF COLLECTION: Research and teaching
SAMPLING LOCATION:
    STATE: Pennsylvania; Florida
    GEOGRAPHICAL AREA: Eastern United States; North America; South America
NUMBER OF SAMPLES: 250,000 specimens
TEMPORARY CONTAINER: Jars
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: alcohol
    FUMIGATION: Para-dichlorobenzene
    DRYING: air dried
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    TEMPERATURE: Room temperature
    HUMIDITY: None
    LIGHT EXPOSURE: Fluorescent lights
    STORAGE MEDIA: air; 75-80% ethyl alcohol

<581>
Frank Ryck
Missouri Dept. of Conservation; 1110 College Ave.; Columbia, MO 65201
(314) 449-3761

COLLECTION DESCRIPTION: Benthic invertebrates from freshwater streams including mayflies, stoneflies, caddisflies, helgramites and beetles
Data and Specimens
PURPOSE OF COLLECTION: Invertebrate collection for base-line information to assist in detecting pollution effects
SAMPLING LOCATION:
    STATE: Missouri
    GEOGRAPHICAL AREA: Ozark Uplands
PRESAMPLING CONDITIONS: Few aquatic invertebrate collections made in Missouri prior to 1962
DATES OF SAMPLING: 1962-1974
NUMBER OF SAMPLES: Approx 1200
SAMPLING METHODS: 20 mesh per inch nylon bottom net, Surber sampler, Eckman dredge, artificial substrate sampler
TEMPORARY STORAGE PROCEDURES: Preserved in 10% formalin, sugar flotation
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: 80% 2 propanol, 15% water, 5% glycerine
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    LIGHT EXPOSURE: Dark
STORAGE LIFE OF SAMPLE: At least 15 years
AVAILABILITY OF SAMPLES AND/OR DATA: Both on request, would prefer not to ship samples

<582>
Richard J. Neves
112 Holdsworth Hall; University of Mass.;
Amherst, MA 01002
(413) 545-2757

COLLECTION DESCRIPTION: Aquatic insects
Specimens Only
SCIENTIFIC NAME: Insecta
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
CITY: Middlefield
STATE: Massachusetts
DATES OF SAMPLING: Sept. 1973 - Aug. 1974 and continuing
NUMBER OF SAMPLES: 12 monthly samples
SAMPLING METHODS: Surber sampler; cleaning riffle stones; drift nets
TEMPORARY CONTAINER: Glass
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 70% isopropyl alcohol, 99% purity
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass
STORAGE MEDIA: 70% isopropyl alcohol
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and data available

<583>
Luther A. Knight, Jr.
Dept. of Biology;University of Mississippi;1855
Eastover Dr.; Jackson, MS 39211
(601) 982-6226

COLLECTION DESCRIPTION: Plankton, primarily Rotifers
Specimens Only
PURPOSE OF COLLECTION: Research for Ph.D. dissertation
SAMPLING LOCATION:
STATE: Mississippi
GEOGRAPHICAL AREA: Arkabutla Reservoir; Sardis Reservoir; Grenada Reservoir; Enid Reservoir
PRESAMPLING CONDITIONS: Some water quality data were collected
DATES OF SAMPLING: August, 1965 to February, 1968
NUMBER OF SAMPLES: 400
RESULTS OF ANALYSES: Plankton
SAMPLING METHODS: #20 Silk Tow Net (Qualitative), Kemmerer Sampler, concentrated by sedimentation (Quantitative)
PERMANENT STORAGE CONDITIONS:
CONTAINER: 30 ml glass vials
STORAGE MEDIA: 10% formalin
AVAILABILITY OF SAMPLES AND/OR DATA: Limited amount of samples available
ADDITIONAL INFORMATION: These samples are a personal collection, but could be made available for analysis.

<584>
John E. Gannon
Biological Station;University of
Michigan;Pellston, MI 49769
(616) 539-8545

COLLECTION DESCRIPTION: Zooplankton including rotifers and micro crustaceans; Water samples from eutrophic, dystrophic, and oligotrophic lakes
Data and Specimens
SCIENTIFIC NAME: Copepoda; Cladocera
PURPOSE OF COLLECTION: Water quality investigations
SAMPLING LOCATION:
STATE: Michigan
GEOGRAPHICAL AREA: Lake Michigan; Lake Huron; Inland lakes of N. Michigan
DATES OF SAMPLING: 1972 to present
SAMPLING METHODS: Vertical tow with fine mesh nets, pumps, and 8 l. capacity water bottles
TEMPORARY CONTAINER: Jars
TEMPORARY STORAGE PROCEDURES: 5% on buffered formalin
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
STORAGE MEDIA: 5% formalin buffered to neutrality with sodium borate
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available upon request

<585>
Wayne B. Merkley
Dept. of Biology; Drake University; 25th &
University; Des Moines, IA 50311
(515) 271-2956

COLLECTION DESCRIPTION: Aquatic insects
Data and Specimens
PURPOSE OF COLLECTION: Research standards and future comparison
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Des Moines River Basin
PRESAMPLING CONDITIONS: Samples collected from artifical substrates
DATES OF SAMPLING: March 1970 to present
NUMBER OF SAMPLES: 160
RESULTS OF ANALYSES: Whole organism
SAMPLING METHODS: Samples collected from artificial substrates: concrete spheres in barbeque baskets suspended from a float
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: 70% alcohol
PERMANENT STORAGE CONDITIONS:
CONTAINER: 2 dram glass vials with corks
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: Dark
STORAGE LIFE OF SAMPLE: Not known
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and data will be made available simply by requesting

<586>
R.K. Kunny
Dept. of Biology; Beloit College; Beloit, WI
53511
(608) 365-3391

COLLECTION DESCRIPTION: Macroscopic riffle invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
STATE: Wisconsin
DATES OF SAMPLING: 1960 - 1974
NUMBER OF SAMPLES: 1000
SAMPLING METHODS: Bottom samples taken from stream riffle areas by Surber or Hess samplers
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass vials
STORAGE MEDIA: 70 % alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Samples available for identification work and data for distribution studies
ADDITIONAL INFORMATION: Species list provided

<587>
J.A. Cummings
Dept. of Biology-119;Univ. of
Wisconsin-Whitewater;Whitewater WI 53190
(414) 472-1090

COLLECTION DESCRIPTION: Aquatic crayfish
Data and Specimens
PURPOSE OF COLLECTION: To collect and identify the existing crayfish of S.E. Wisconsin
SAMPLING LOCATION:
    CITY: Whitewater
    COUNTY: Walworth
    STATE: Wisconsin
DATES OF SAMPLING: 1968 to present
SAMPLING METHODS: Net and trap
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: Formalin
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    STORAGE MEDIA: Formaldhyde
AVAILABILITY OF SAMPLES AND/OR DATA: We are in the process of keying and recording - when this is done many will be available on a loan bases.

<588>
Sherman S. Hendrix
Dept. of Biology;Gettysburg College;Gettysburg, PA 17325
(717) 334-3131, ext. 208

COLLECTION DESCRIPTION: Sample trematodes from common inshore fish along N.E. United States Coast
Data and Specimens
SCIENTIFIC NAME: Trematoda
PURPOSE OF COLLECTION: Systematics of group
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Northeastern United States; Beaufort, North Carolina to New England
DATES OF SAMPLING: 1974 to present
RESULTS OF ANALYSES: Whole specimens usually taken with intestine which is discarded
SAMPLING METHODS: Trawling
TEMPORARY CONTAINER: Plastic, ziplock bags
TEMPORARY STORAGE PROCEDURES: Fish intestine heated to 75 degrees C in water bath then concentrated formalin added
DELAY BEFORE PERMANENT STORAGE: Several weeks
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: 10% formalin
PERMANENT STORAGE CONDITIONS:
    STORAGE MEDIA: Formaldehyde
STORAGE LIFE OF SAMPLE: Several years
AVAILABILITY OF SAMPLES AND/OR DATA: Still too early -- specimens on slides will be deposited in USNM-Helminth collection

<589>
Bernard J. McAlice
Oceanography: Ira C. Darling Ctr.; University of Maine; Darling Center; Walpole, ME 04573
(207) 563-3146

COLLECTION DESCRIPTION: Estuarine phytoplankton and zooplankton
Data and Specimens
PURPOSE OF COLLECTION: Survey of estuarine phytoplankton and zooplankton
SAMPLING LOCATION:
    COUNTY: Lincoln; Sagadahoc
    STATE: Maine
    GEOGRAPHICAL AREA: Damariscotta River Estuary; Sheepscot River Estuary
PRESAMPLING CONDITIONS: Glacial
DATES OF SAMPLING: Oct. 1969 to present
NUMBER OF SAMPLES: Hundreds
SAMPLING METHODS: Metered nets - oblique tows with no. 10 and no. 20 mesh nets by day; sets of buoyed and anchored no. 00 mesh nets by night
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    TEMPERATURE: None
    HUMIDITY: None
    LIGHT EXPOSURE: Low
    STORAGE MEDIA: 4% formaldehyde
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Data available by mail; samples may be used at Darling Center

<590>
John S. Pearse
Dept. of Biology; Coastal Marine Laboratory; University of California at Santa Cruz; Santa Cruz, CA 95064
(408) 429-0582

COLLECTION DESCRIPTION: Marine invertebrates; some from polluted waters
Data and Specimens
PURPOSE OF COLLECTION: Reference collection for teaching and baseline studies
SAMPLING LOCATION:
    COUNTY: Santa Cruz; San Mateo; Monterrey
    STATE: California
DATES OF SAMPLING: Sept. 1971 to June 1973
NUMBER OF SAMPLES: Approx. 500, several specimens of most species
SAMPLING METHODS: Collect from high, mid, or low intertidal zones of well described areas.
TEMPORARY CONTAINER: Plastic bags
TEMPORARY STORAGE PROCEDURES: Refrigeration
DELAY BEFORE PERMANENT STORAGE: 1-5 days
PERMANENT STORAGE PREPARATION: Intact Storage
    CHEMICAL STABILIZATION: 70% ethanol or 5-10% formalin
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass jars
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: Computer print-out of species lists soon available

<591>
John W. Icanberry
Dept. of Engineering Research; Pacific Gas & Electric Company; 3400 Crow Canyon Rd.; San Ramon, CA 94583
(415)820-2000

COLLECTION DESCRIPTION: Marine zooplankton; terrestrial algae
Data and Specimens
PURPOSE OF COLLECTION: Zooplankton Survey
SAMPLING LOCATION:
    STATE: California
    GEOGRAPHICAL AREA: Diablo Canyon; San Francisco Bay; Humboldt Bay; Morro Bay; Monterrey
DATES OF SAMPLING: 1971 - 1972
NUMBER OF SAMPLES: 48
SAMPLING METHODS: Pumps
PERMANENT STORAGE CONDITIONS:
    STORAGE MEDIA: Formaldehyde
ADDITIONAL INFORMATION: Species list available

<592>

COMPONENT OF INTEREST: OTHER

<592>
Roderick A. Chisholm II
Environmental Branch; U.S. Army Corps of Engineers SF Dist.; 100 McAllister St.; San Francisco, CA 94102
(415) 556-7471

COLLECTION DESCRIPTION: Marine benthic organisms
Data and Specimens
PURPOSE OF COLLECTION: Synoptic collections of benthic surveys run in association with Corps activities
SAMPLING LOCATION:
  COUNTY: Northern California Counties
  STATE: California
DATES OF SAMPLING: 1972 to present
SAMPLING METHODS: Dredges and diver corers
PERMANENT STORAGE PREPARATION: Intact Storage
  CHEMICAL STABILIZATION: 15% formalin
PERMANENT STORAGE CONDITIONS:
  CONTAINER: Glass containers
  STORAGE MEDIA: Formalin
AVAILABILITY OF SAMPLES AND/OR DATA: In house visits

<593>
Curtis L. Wiscombe
San Francisco Bay Marine Research Center;8 Middle Road;Lafayette, CA 94549
(415) 254-5650

FORMAL NAME OF COLLECTION: San Pablo Laboratory, Richmond, CA 94806
COLLECTION DESCRIPTION: Marine benthic invertebrates
Specimens Only
PURPOSE OF COLLECTION: Reference
SAMPLING LOCATION:
  STATE: California
  GEOGRAPHICAL AREA: San Francisco Bay; N. California, Coastal areas
DATES OF SAMPLING: 1972-1978
NUMBER OF SAMPLES: Approx. 1000
SAMPLING METHODS: Standard Bottom samplers
TEMPORARY CONTAINER: Glass
TEMPORARY STORAGE PROCEDURES: Place specimens in vials within jars for smaller forms.
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
  CONTAINER: Glass
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available
ADDITIONAL INFORMATION: A duplicate collection is provided to and maintained within the collections of the California Acad. of Sciences.

<594>
William Sipple
Maryland Dept. of Natural Resources; Water Resources Administration; Tawes State Office Bldg.; Annapolis, MD 21401
(301) 267-5877

COLLECTION DESCRIPTION: Saltmarsh invertebrates; Including mussels, periwinkles, and snails
Data Collection Only
SCIENTIFIC NAME: Modiolus demissus; Littorina irrorata; Melampus bidentatus
COMMON NAME: Ribbed Mussel; Gulf periwinkle; salt marsh snail
PURPOSE OF COLLECTION: Population numbers and diversity
SAMPLING LOCATION:
  COUNTY: Worcester
  STATE: Maryland
DATES OF SAMPLING: 1972 to 1976
NUMBER OF SAMPLES: 160 - 1 sq. m quadrats; 22-0.5 sq. m quadrats
SAMPLING METHODS: Quadrat frame
AVAILABILITY OF SAMPLES AND/OR DATA: Data available

<595>
Charles Collinson
Rm 239 Natural Resources Bldg.; Urbana, IL 61801
(217) 344-1481, ext. 201

COLLECTION DESCRIPTION: Microfossils of marine invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Collections were made as an aid in correlating strata within Illinois and the surrounding states.
SAMPLING LOCATION:
  STATE: Illinois
  GEOGRAPHICAL AREA: Central United States; Ireland; England; Germany; Worldwide
DATES OF SAMPLING: 1930 to present
NUMBER OF SAMPLES: About 15,000 samples containing approximately 500,000 microfossil specimens.
RESULTS OF ANALYSES: Primarily conodont microfossils, with some ostracods, forminiferans, and some chitinozoans
SAMPLING METHODS: Numerous methods used - primarily chemical disaggregation of rock core or rock outcrop
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
  CONTAINER: Most samples are stored in micropaleontological slides
AVAILABILITY OF SAMPLES AND/OR DATA: Microfossils, especially type and illustrated specimens are available for limited loans to qualified researchers

<596>
Lois S. West
25 Natural Resources Bldg., Illinois State Geological Survey; Urbana, IL 61801
(217) 344-1481, ext. 206

FORMAL NAME OF COLLECTION: Paleontological collections
COLLECTION DESCRIPTION: Paleozoic and Pleistocene fossil marine invertebrates
Data and Specimens
PURPOSE OF COLLECTION: Collections were made (1) as an aid in the study of the stratigraphy of the area, and (2) for the study of the forms themselves.
SAMPLING LOCATION:
  STATE: Illinois
  GEOGRAPHICAL AREA: Central United States
DATES OF SAMPLING: 1850 to present
NUMBER OF SAMPLES: Many thousands
PERMANENT STORAGE PREPARATION: Intact Storage
AVAILABILITY OF SAMPLES AND/OR DATA: Fossils, especially type and illustrated specimens, are available for limited loans to any qualified researcher

<597>
R.J. Lavigne
P.O. Box 3354; University Station; Laramie,WY 82071
(307) 766-5199

FORMAL NAME OF COLLECTION: Rangeland Insect Collections, Pawnee National Grassland Collection, Laramie, WY
COLLECTION DESCRIPTION: Insects from rangeland and grassland
Data and Specimens
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
    STATE: Wyoming; Colorado
    GEOGRAPHICAL AREA: Southeast Wyoming; Pawnee Site, Nunn, CO
DATES OF SAMPLING: Spring, Summer, Fall: 1961 to present
SAMPLING METHODS: Sweeping, D-vac
PERMANENT STORAGE PREPARATION: Intact Storage
    DRYING: Yes
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Cornell Drawers
STORAGE LIFE OF SAMPLE: 75 years
AVAILABILITY OF SAMPLES AND/OR DATA: Yes, data and use in museum
ADDITIONAL INFORMATION: Species list available

<598>
Harry O. Yates, III
Forest Sciences Lab.; U.S.Forest Service; Athens GA 30602
(404) 546-2415

COLLECTION DESCRIPTION: Pinned & preserved insects: primarily Coleoptera, Lepidoptera, and Hymenoptera
Data and Specimens
PURPOSE OF COLLECTION: Reference, identification, demonstration
SAMPLING LOCATION:
DATES OF SAMPLING: 1930 to present
NUMBER OF SAMPLES: 9400 specimens (dry and preserved insects)
SAMPLING METHODS: Rearing, netting, trapping
TEMPORARY CONTAINER: Plastic bags, glass jars and vials, Riker boxes, and museum drawers
TEMPORARY STORAGE PROCEDURES: Refrigeration (of light trap material pending pinning), temporarily pinned dry, or wet (alcohol vials) storage
DELAY BEFORE PERMANENT STORAGE: Variable (several days to a year or longer)--pending I.D.--for permanent storage in museum drawers
PERMANENT STORAGE PREPARATION: Intact Storage
    FREEZING: 0 degrees
    FUMIGATION: Paradichlorobenzene generally; occasional fumigation with HCN if needed; about 1 tbsp/drawer PDB
    DRYING: Air drying of pinned specimens
    OTHER: Often killing in boiling H2O or in KAAD solution
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Museum drawers
    STORAGE MEDIA: Ethyl alcohol 70% for wet storage
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Loans on request

<599>
Daniel R. Kucera
USDA Forest Service; P.O. & Federal Building; 80 Daniel Street; Portsmouth, NH 03801
(603) 436-7720, ext. 765

COLLECTION DESCRIPTION: Forest insect collection
Data and Specimens
PURPOSE OF COLLECTION: Reference collection for forest entomology
SAMPLING LOCATION:
NUMBER OF SAMPLES: Approx. 7000
ADDITIONAL INFORMATION: Our collection consists of pinned specimens and also larval collections

<600>
A.K. Burditt, Jr.
13601 Old Cutler Road; Miami, FL 33158
(305) 238-9322

COLLECTION DESCRIPTION: Fruit flies, live colonies
Specimens Only
SCIENTIFIC NAME: Anastrepha suspensa (Loew)
COMMON NAME: Caribbean fruit fly
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
    STATE: Florida
PRESAMPLING CONDITIONS: Introduced Diptera
NUMBER OF SAMPLES: Colony
TEMPORARY CONTAINER: Living specimens in cages
AVAILABILITY OF SAMPLES AND/OR DATA: Available for shipment out of state or country ONLY as dead preserved specimens.
ADDITIONAL INFORMATION: This is a laboratory colony of live flies we maintain for research into biology and control methods for this species of Diptera.

<601>
Richard H. Smith
U. S. Dept. of Agriculture; Pacific Southwest Forest and Range Exp. Sta; P.O. Box 245; Berkeley, CA 94701

COLLECTION DESCRIPTION: Terrestrial insects
Data and Specimens
SCIENTIFIC NAME: Insecta
PURPOSE OF COLLECTION: Reference and research collection for destructive forest insects and their associates in California and western United States
SAMPLING LOCATION:
    STATE: California
    GEOGRAPHICAL AREA: Western United States
DATES OF SAMPLING: 1910 to present
NUMBER OF SAMPLES: Approx. 6800
TEMPORARY CONTAINER: Various
PERMANENT STORAGE PREPARATION: Intact Storage
    FUMIGATION: Cyanide
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Cornell drawers
    TEMPERATURE: Room
    HUMIDITY: Room
    LIGHT EXPOSURE: Dark
    STORAGE MEDIA: Air with paradichlorobenzene crystals
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Samples may be studied here
ADDITIONAL INFORMATION: In addition to the approximately 6800 dried insect specimens, there are approximately 120 bottles of alcohol preserved specimens, mostly immature forms of insects. The number in bottles varies from a few to thousands.

<602>

COMPONENT OF INTEREST: OTHER

<602>
Glenn Belyea
6058 Clark Rd.;Bath, MI 48808
(517) 641-4729

COLLECTION DESCRIPTION: Terrestrial insects
Data and Specimens
SCIENTIFIC NAME: Lepidoptera
COMMON NAME: Butterflies and Moths
PURPOSE OF COLLECTION: Personal collection
SAMPLING LOCATION:
STATE: Michigan
GEOGRAPHICAL AREA: North America
DATES OF SAMPLING: 1965 - 1974
NUMBER OF SAMPLES: 9000
SAMPLING METHODS: Net, ultraviolet light and cyanide jar.
TEMPORARY CONTAINER: Pinned
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Paradichlorobenzene
PERMANENT STORAGE CONDITIONS:
TEMPERATURE: Room Temperature
HUMIDITY: Dehumidifier when necessary
LIGHT EXPOSURE: Dark
AVAILABILITY OF SAMPLES AND/OR DATA: By appointment

<603>
Charles Sartwell
PNW; Forestry Sciences Laboratory;U.S. Forest Service;3200 Jefferson Way;Corvallis, OR 97331
(503) 752-4211, ext. 270

COLLECTION DESCRIPTION: Terrestrial, forest insects
Data and Specimens
PURPOSE OF COLLECTION: Taxonomy
SAMPLING LOCATION:
STATE: Oregon; Washington
DATES OF SAMPLING: 1915 to present
NUMBER OF SAMPLES: Approx. 20, 000 specimens
PERMANENT STORAGE PREPARATION: Intact Storage
FUMIGATION: Paradichlorobenzene
PERMANENT STORAGE CONDITIONS:
CONTAINER: Wood boxes within metal cases, 10% of collection in glass vials
TEMPERATURE: Room temperature
HUMIDITY: Air-conditioned building
LIGHT EXPOSURE: Dark
STORAGE MEDIA: air and paradichlorobenzene volatiles; specimens in vials in 70% ethanol

<604>
Daniel T. Jennings
Rocky Mt. Forest & Range Exp. Sta.; Room 5423, New Federal Bldg.; 517 Gold Ave.; Albuquerque, NM 87101
(505) 766-2384; (505) 766-2385

COLLECTION DESCRIPTION: Forest insects and spiders
Data and Specimens
PURPOSE OF COLLECTION: Museum collection, forest insect research
SAMPLING LOCATION:
STATE: Arizona; New Mexico
GEOGRAPHICAL AREA: National Forests
PRESAMPLING CONDITIONS: Very limited
DATES OF SAMPLING: 1953 to present
NUMBER OF SAMPLES: Approx. 5,000 insects; 2,500 spiders
PERMANENT STORAGE PREPARATION: Intact Storage
CHEMICAL STABILIZATION: Some insects and all spiders stored in 70-90% ETOH
FUMIGATION: Museum methods
DRYING: Insects pinned and air dried.
PERMANENT STORAGE CONDITIONS:
CONTAINER: Pinning boxes and 2 dram glass vials
STORAGE MEDIA: Air and alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and associated data can be made available

<605>
Robert T. Allen
Dept. of Entomology;University of Arkansas;Fayetteville, AR 72701
(501) 575-2451

COLLECTION DESCRIPTION: Insect collection
Data and Specimens
PURPOSE OF COLLECTION: Synoptic and research collection
SAMPLING LOCATION:
STATE: Arkansas
GEOGRAPHICAL AREA: Worldwide
NUMBER OF SAMPLES: 200,000
SAMPLING METHODS: Field Collecting; Exchanges; Purchase
PERMANENT STORAGE PREPARATION: Intact Storage
ADDITIONAL INFORMATION: Collection is composed of 200, 000 identified specimens; 70% being from Arkansas. The collection is housed in the agricultural building. A full time curator is employed.

<606>
John R. Harbo
Bee Breeding and Stock Center Laboratory; Rural Rt. 3; Box 82-B; Ben Hur Rd.; Baton Rouge, LA 70808
(504) 766-6064

COLLECTION DESCRIPTION: Collection of Honey Bee Queens
Specimens Only
SCIENTIFIC NAME: Apis mellifera L.
COMMON NAME: Honey bee
PURPOSE OF COLLECTION: Research standards; germ plasm for productive hybrids; mutants for genetic research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States; Europe
DATES OF SAMPLING: 1938 to present
NUMBER OF SAMPLES: Lines started with one or two queens
RESULTS OF ANALYSES: 12 genetic lines
SAMPLING METHODS: Queens sent by beekeepers and bee researchers
AVAILABILITY OF SAMPLES AND/OR DATA: Queens are $5 each, no charge for 4 queens or less.
PUBLICATIONS: Stock Center Inventory-1973 by J.R. Harbo, J.B. Bishop, G.Y. Reynolds, and E.R. Mays; American Bee Journal 113(12): Dec. 1973: pp. 450-453.

<607>
Sigurd O. Nelson, Jr.
Dept. of Zoology;State University of New York;Oswego, NY 13126
(315) 341-4249

COLLECTION DESCRIPTION: Pseudoscorpion collection
Data and Specimens
SCIENTIFIC NAME: Microbisium confusum
COMMON NAME: Pseudoscorpions
PURPOSE OF COLLECTION: Research systematics and ecology
SAMPLING LOCATION:
STATE: Michigan
DATES OF SAMPLING: 1967 - 1971
SAMPLING METHODS: Tullgren funnels; hand picking
TEMPORARY CONTAINER: Tulgren funnels; hand picking
PERMANENT STORAGE PREPARATION: Fractionated
PERMANENT STORAGE CONDITIONS:
CONTAINER: Vials and slides
STORAGE MEDIA: Balsam; alcohol
AVAILABILITY OF SAMPLES AND/OR DATA: available

COMPONENT OF INTEREST: OTHER

<608>
Glen Erickson
North Central Forest Experiment Station;USDA
Forest Service; Folwell Avenue;St. Paul, MN 55108
(612) 645-0841

COLLECTION DESCRIPTION: Terrestrial insects
Data and Specimens
SCIENTIFIC NAME: Lepidoptera; Hymenoptera;
Homoptera; Coleoptera; Diptera; Arthropoda
PURPOSE OF COLLECTION: Museum and insect
identification
SAMPLING LOCATION:
  GEOGRAPHICAL AREA: North central United
  States
SAMPLING METHODS: Sweep nets; black lights
DELAY BEFORE PERMANENT STORAGE: 1 to 5 days
PERMANENT STORAGE PREPARATION: Intact Storage
  FUMIGATION: Moth crystals
PERMANENT STORAGE CONDITIONS:
  TEMPERATURE: Room temperature
  HUMIDITY: None
  LIGHT EXPOSURE: None
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: On a
temporary loan to be returned here

<609>
Lester P. Gibson
U.S. Forest Service;Northeastern Forest
Experiment Station; P.O. Box 365;Delaware, OH
43015
(614) 369-4471

COLLECTION DESCRIPTION: Forest and shade tree
insect collection
Data and Specimens
PURPOSE OF COLLECTION: Reference collection
SAMPLING LOCATION:
  GEOGRAPHICAL AREA: Central and northeastern
  United States
DATES OF SAMPLING: 1915 to present
SAMPLING METHODS: Hand collecting and various
trapping methods (light, net, window, etc.).
Large numbers of foliage and twig feeding insects
were collected on oak, with use of a systemic
(Chipman 912) and sheet funnel traps.
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
  CONTAINER: Specimens pinned in cabinet
  drawers and stored loosely in shoe boxes
  TEMPERATURE: Approx. 22 degrees C
  HUMIDITY: Low humidity
  LIGHT EXPOSURE: Dark
  STORAGE MEDIA: Napthalene crystals kept in
  drawers and boxes.
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: All
specimens are available to outside researchers
for non-destructive purposes, these to be
returned intact. Where a surplus of a species
exists, specimens may be released for destructive
purposes.

<610>
Alexander P. Grantt
North Carolina Dept. of Agriculture;Analytical
Division; Agriculture Bldg. Capitol SQ; Raleigh,
NC 27601
(919) 829-3571

FORMAL NAME OF COLLECTION: Insect Collection,
Filth Unit Food Laboratory, Food & Drug
Protection Division, N.C.D.A.
COLLECTION DESCRIPTION: Terrestrial
invertebrates, insects
Specimens Only
PURPOSE OF COLLECTION: Reference collection
SAMPLING LOCATION:
  STATE: North Carolina
  GEOGRAPHICAL AREA: Southeastern United States
DATES OF SAMPLING: Since Jan 1, 1975
NUMBER OF SAMPLES: 150 species of insects
RESULTS OF ANALYSES: Insects
SAMPLING METHODS: Complaint food samples
TEMPORARY CONTAINER: Glass vials
PERMANENT STORAGE PREPARATION: Intact Storage
  CHEMICAL STABILIZATION: Ethanol-60%, 95%
  purity
PERMANENT STORAGE CONDITIONS:
  STORAGE MEDIA: 60% ethanol
STORAGE LIFE OF SAMPLE: Many years
AVAILABILITY OF SAMPLES AND/OR DATA: Loan

<611>
Charles E. Cheston
Dept. of Forestry; The University of the South;
Sewanee, TN 37375
(615) 598-5182

FORMAL NAME OF COLLECTION: Harold Nogle Wood
Specimen Collection
COLLECTION DESCRIPTION: Wood specimen collection
Data and Specimens
SAMPLING LOCATION:
  GEOGRAPHICAL AREA: Worldwide
DATES OF SAMPLING: 1920 to present
NUMBER OF SAMPLES: 8000 Catalogued and Housed
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<612>
Robert E. Carter
School of Medicine; University of Minnesota;
Duluth, MN 55812
(218) 726-7571

COLLECTION DESCRIPTION: Tissue samples from
normal human organs; freshwater fish
Data and Specimens
PURPOSE OF COLLECTION: Possible future medical
research on effects of orally ingested asbestos
SAMPLING LOCATION:
  CITY: Duluth
  COUNTY: St. Louis
  STATE: Minnesota
  GEOGRAPHICAL AREA: Minneapolis, Minn. and
  Houston, Texas - control group
PRESAMPLING CONDITIONS: General population in the
area of Duluth has been exposed to large
concentrations of asbestos-like fibers in the
city water supply.
DATES OF SAMPLING: Jul, 1973 to present
NUMBER OF SAMPLES: 121 post-mortem examinations,
80 L plasma, 50 urines
SAMPLING METHODS: Site chosen because of large
exposure to asbestos-like fibers in water.
Samples collected at post mortem examination,
from local physicians and blood bank
PERMANENT STORAGE PREPARATION: Intact Storage
  FREEZING: plasma 0 and -80 degrees C, fish 0
  degrees C
PERMANENT STORAGE CONDITIONS:
  CONTAINER: Polyethylene bags for post mortem
  TEMPERATURE: Room temperature for post mortem
  HUMIDITY: Room humidity for post mortem
  STORAGE MEDIA: Formaldehyde
AVAILABILITY OF SAMPLES AND/OR DATA: Available to
anyone interested in the effects of orally
ingested asbestos
ADDITIONAL INFORMATION: All specimens which are
fixed and stored in formalin are in fiber free
solution. Millipore filtration has been utilized
to remove potential contaminating fibers.

<613>
Kenneth D. Woodruff
Delaware Geological Survey; 101 Penny Hall;University of Delaware;Newark, DE 19711
(302) 738-2833

COLLECTION DESCRIPTION: Geologic samples; rock and estuarine bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: Source of local geologic information
SAMPLING LOCATION:
STATE: Delaware
GEOGRAPHICAL AREA: Delaware Bay
DATES OF SAMPLING: 1951 - 1976
NUMBER OF SAMPLES: 15,500
SAMPLING METHODS: Auger, rotary drilling, hand sampling, shallow coring devices
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Air dried
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass and cardboard; bags
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Upon request if sufficient samples exists

<614>
Donald D. Runnells
Dept. of Geological Sciences;University of Colorado;Boulder, CO 80302
(303) 492-2211, ext. 8323

COLLECTION DESCRIPTION: River bottom sediment, soil, bedrock, and organic deltritus samples; aquatic and terrestrial plants
Data and Specimens
PURPOSE OF COLLECTION: Background studies of molybdenum in environment
SAMPLING LOCATION:
STATE: Colorado
PRESAMPLING CONDITIONS: Samples chosen to demonstrate differences between natural and impacted areas
DATES OF SAMPLING: Summer 1971 through Summer 1976
NUMBER OF SAMPLES: Approx. 3000
RESULTS OF ANALYSES: Trace inorganics; molybdenum
SAMPLING METHODS: Grid coordinate system over mineralized area; regional grab samples
TEMPORARY CONTAINER: Polyethylene bags
DELAY BEFORE PERMANENT STORAGE: Days to months
PERMANENT STORAGE PREPARATION: Intact Storage; Fractionated
HIGH TEMPERATURE ASHING: 450 degrees C on some plants
DRYING: Air dried sediments; soils; 70 degrees C for plants
PERMANENT STORAGE CONDITIONS:
CONTAINER: Glass for soils and sediments; cloth bags for plants
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Available by arrangement

<615>
Arthur B. Onken
Texas Agricultural Experiment Station; Texas A & M Univ. Agricultural Experiment Station at Lubbock; Rt. # 3; Lubbock, TX 79401
(806) 746-6101

COLLECTION DESCRIPTION: Soil samples
Data and Specimens
PURPOSE OF COLLECTION: Chemical analysis
SAMPLING LOCATION:
STATE: Texas
GEOGRAPHICAL AREA: High plains and rolling plains of Texas
PRESAMPLING CONDITIONS: Several levels of approved fertilizer and various crops grown under irrigation
DATES OF SAMPLING: 1966 - 1976
NUMBER OF SAMPLES: Approx. 2,000
RESULTS OF ANALYSES: Unused fertilizer analysis
SAMPLING METHODS: Samples taken at sites of soil fertility research plots with hand or hydraulic coring equipment
TEMPORARY CONTAINER: Paper
PERMANENT STORAGE PREPARATION: Intact storage
DRYING: Air dryed
PERMANENT STORAGE CONDITIONS:
CONTAINER: Cardboard or plastic
AVAILABILITY OF SAMPLES AND/OR DATA: Both samples and data are available to the extent of amount of sample and regulations at cooperating agencies where applicable

<616>
William J. Lucas
Dept. of Agriculture; Forest Service; Bldg. 85 Denver Federal Center; Denver, CO 80225
(303) 234-4365

COLLECTION DESCRIPTION: Soil Samples
Data and Specimens
PURPOSE OF COLLECTION: Soil Survey
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Southern Rocky Mtns.; United States
DATES OF SAMPLING: 1958 to present
SAMPLING METHODS: National Cooperative Soil Survey Standards
ADDITIONAL INFORMATION: Samples stores with the Soil Conservation Service-USDA-at their Regional Technical Center, Portland, Oregon

<617>
Robert S. Johnston
Forestry Sciences Lab.; 860 North 12th East; Logan, UT 84321
(801) 752-1311

COLLECTION DESCRIPTION: Soil, River water, and terrestrial plant samples for nutrient characteristics
Data Collection Only
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
CITY: Farmington
COUNTY: Davis
STATE: Utah
GEOGRAPHICAL AREA: Chicken Creek Drainage
PRESAMPLING CONDITIONS: Area has been protected from fire and grazing since the early 1930's as part of the Davis County Experimental Watersheds administered by the U.S. Forest Service
DATES OF SAMPLING: 1972 to 1976
NUMBER OF SAMPLES: Water samples collected weekly
SAMPLING METHODS: Soils: bulk samples at various depths; Vegetation: clipping and whole tree sampling; Water: grab samples
TEMPORARY CONTAINER: Water: polyethelene
TEMPORARY STORAGE PROCEDURES: Sample iced until analyzed
DELAY BEFORE PERMANENT STORAGE: Samples not permanently stored
PERMANENT STORAGE PREPARATION: Intact Storage
FREEZING: 1 degree C
DRYING: Soils air dried, vegetation drying variable
AVAILABILITY OF SAMPLES AND/OR DATA: Data available upon completion of study, sometimes sooner, depending on circumstances and proposed uses.

<618>
James R. Brown
Dept. of Agronomy; University of Missouri; 139
Mumford Hall; Columbia, MO 65201
(314) 882-6681

COLLECTION DESCRIPTION: Soils: silt loam
Data and Specimens
SCIENTIFIC NAME: Mexico silt loam
PURPOSE OF COLLECTION: Document soil changes on Sanborn field with management
SAMPLING LOCATION:
  CITY: Columbia
  COUNTY: Boone
  STATE: Missouri
DATES OF SAMPLING: 1910, 1920, 1938, 1963
SAMPLING METHODS: Core(1963); Probe and Auger-others
PERMANENT STORAGE CONDITIONS:
  CONTAINER: Glass (1938 & prior); fiberboard-1963
  TEMPERATURE: None
  HUMIDITY: None
  LIGHT EXPOSURE: Dark
AVAILABILITY OF SAMPLES AND/OR DATA: On limited scale only

<619>
Brian L. McNeal
Dept. of Agronomy & Soils; Washington State
University; Pullman, WA 99163
(509) 335-3650

COLLECTION DESCRIPTION: Representative soils
Data and Specimens
PURPOSE OF COLLECTION: Soil physical and chemical analysis
SAMPLING LOCATION:
  STATE: Washington
DATES OF SAMPLING: 1930 to 1970
SAMPLING METHODS: Air-dried, passed 2 mm sieve
TEMPORARY CONTAINER: Transported in plastic or metal containers, contacting only small portions of the samples.
TEMPORARY STORAGE PROCEDURES: Air dried on paper placed on wooden shelves, passed through 2 mm wires screens.
DELAY BEFORE PERMANENT STORAGE: 1 week
PERMANENT STORAGE PREPARATION: Intact storage
  DRYING: Air
PERMANENT STORAGE CONDITIONS:
  CONTAINER: Plywood bins
  TEMPERATURE: Room temperature
  HUMIDITY: None
  LIGHT EXPOSURE: None
  STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Data upon request; samples available under 450 grams.
ADDITIONAL INFORMATION: Characterized Samples: ahtanum loam; aikin silty clay; loam; chehalis silty clay loam; cloville silt loam; conconully fine sandy loam; corfu subsoil; ephrata sandy loam; everett gravelly sandy loam; felida silt loam; hesson silty clay loam; Melbourne silty clay loam; Palouse silt loam; Puget silty clay loam; Puyallup silty clay loam; Quincy fine sand; Salkum silty clay loam; Walla Walla silt loam; Partially-Characterized Samples: diatomaceous earth; quillayute soil; pumice; umapine soil; volcanic ash; whatcom soil

<620>
Max Springer
Dept. of Plant & Soil Science;P.O. Box
1071;University of Tennessee;Knoxville, TN 37916
(615) 974-7101

COLLECTION DESCRIPTION: Soil samples
Data and Specimens
SAMPLING LOCATION:
  STATE: Tennessee
DATES OF SAMPLING: 1959 to 1974
NUMBER OF SAMPLES: 150
SAMPLING METHODS: Standard sampling and descriptions
TEMPORARY CONTAINER: Ice cream cartons and sacks

<621>
Scott J. Williams
Peru State College;Peru, NB 68421
(402) 872-6815

COLLECTION DESCRIPTION: Soils, bedrock and fossils
Data and Specimens
PURPOSE OF COLLECTION: Museum, research and teaching
SAMPLING LOCATION:
  CITY: Auburn; Wymore; Nehawka
  COUNTY: Nemaha; Gage; Cass
  STATE: Nebraska
DATES OF SAMPLING: 1972 - 1974
RESULTS OF ANALYSES: Rocks, minerals, fossils
ADDITIONAL INFORMATION: Materials we have are mainly Permian and Pennsylvanian specimens both mineral and fossil plus Nebraskan soils and Till samples

<622>
Alan Davis
Coal Research Section; 513 Deike; Pennsylvania
State University; University Park, PA 16802
(814) 865-6544

COLLECTION DESCRIPTION: Coal samples for comprehensive petrological, chemical, and physical testing
Data and Specimens
COMMON NAME: Coal
PURPOSE OF COLLECTION: To have a range of coal samples available for research
SAMPLING LOCATION:
  GEOGRAPHICAL AREA: United States
DATES OF SAMPLING: April 1967 to present
NUMBER OF SAMPLES: Approx. 360
SAMPLING METHODS: Pick and shovel
TEMPORARY CONTAINER: Cardboard drum or hessian sack with plastic liner
DELAY BEFORE PERMANENT STORAGE: Up to 2 weeks
PERMANENT STORAGE PREPARATION: Intact Storage
  OTHER: Some portions of samples are crushed
PERMANENT STORAGE CONDITIONS:
  CONTAINER: Cardboard and steel drums
  TEMPERATURE: None
  HUMIDITY: None
  LIGHT EXPOSURE: Dark
  STORAGE MEDIA: Air; nitrogen; water
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available to OCR contractors; to others with Office of Coal Research approval
ADDITIONAL INFORMATION: Sampling location research available

<623>

COMPONENT OF INTEREST: OTHER

<623>
Ernest E. Russell
P.O. Drawer P; Mississippi State University;
Mississippi State, MS 39762
(601) 325-5926

FORMAL NAME OF COLLECTION: Dunn-Seiler Museum
COLLECTION DESCRIPTION: Rocks, minerals, fossils
Specimens Only
PURPOSE OF COLLECTION: Teaching and museum collection
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Worldwide; various parts of the world
NUMBER OF SAMPLES: Several thousands
RESULTS OF ANALYSES: Inorganic materials that are common to minerals, rocks, and fossils
AVAILABILITY OF SAMPLES AND/OR DATA: Available to all within the Museum
ADDITIONAL INFORMATION: Materials included in the Dunn-Seiler Museum are rocks, minerals, and fossils that have been collected from various places throughout the world, and over a period of several years.

<624>
Glenna Wiley; Edward N. Wilson
Kentucky Geological Survey University of Kentucky;Lexington, KY 40506
257-1677; (606) 257-2696

COLLECTION DESCRIPTION: Cores and cuttings from subsurface test wells; official stake depository for all rock sample cuttings from oil and gas wells drilled in Ky.
Data and Specimens
PURPOSE OF COLLECTION: Subsurface geologic studies stratigraphy, lithology, oil, gas, and mineral resources research.
SAMPLING LOCATION:
    STATE: Kentucky
DATES OF SAMPLING: 1933 to present
NUMBER OF SAMPLES: 12,000 samples, cores over 100,000 feet
SAMPLING METHODS: Core barrels with diamond bits, Baker core barrels, and cutting from oil and gas test wells by drillers.
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: May be used on location at sample and core libraries only
ADDITIONAL INFORMATION: The Kentucky Geological Survey is the official state depository since 1960 for all rock sample cuttings from oil and gas wells drilled in Kentucky.

<625>
John Thrailkill
Dept. of Geology; University of Kentucky;
Lexington, KY 40506
(606) 257-3758

COLLECTION DESCRIPTION: Rocks and fossils; river water and groundwater.
Data and Specimens
PURPOSE OF COLLECTION: Teaching and research
SAMPLING LOCATION:
    STATE: Kentucky
    GEOGRAPHICAL AREA: Eastern U.S.; North America; worldwide
NUMBER OF SAMPLES: Approx 50,000
PERMANENT STORAGE PREPARATION: Intact Storage
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<626>
Richard Davis
Fernbank Science Center; 156 Heaton Park Dr. NE;
Atlanta, GA 30307
(404) 378-4311

COLLECTION DESCRIPTION: Metamorphic, sedimentary and igneous rocks; Extensive tektite collection
Specimens Only
PURPOSE OF COLLECTION: Museum and reference collection
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Southeastern U.S.
DATES OF SAMPLING: 1965 to present
NUMBER OF SAMPLES: 500-700
SAMPLING METHODS: Standard geological field methods
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Geological Specimen Cabinets
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<627>
H. Wesley Peirce
University of Arizona;Arizona Bureau of Mines;Tucson, AZ 85721
(602) 884-2733

COLLECTION DESCRIPTION: Bedrock cores
Specimens Only
PURPOSE OF COLLECTION: Record of third dimension
SAMPLING LOCATION:
    STATE: Arizona
NUMBER OF SAMPLES: Several 100,000
RESULTS OF ANALYSES: Rock particles or fragments
SAMPLING METHODS: Drills (well drilling for water, oil, gas, helium, mineral commodities.)
PERMANENT STORAGE PREPARATION: Intact Storage
AVAILABILITY OF SAMPLES AND/OR DATA: Yes-used on premises; Loaned on special occasions

<628>
George H. Keller
NOAA Alantic Oceanographic and Meteorological Labs.; 15 Rickenbacker Cswy.; Virginia Key;
Miami, FL 33149
(305) 361-3361, ext. 353

COLLECTION DESCRIPTION: Marine and estuarine bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: Basic material for geological studies of the ocean basins
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Atlantic Ocean;Caribbean Sea
DATES OF SAMPLING: June 1967 to present
NUMBER OF SAMPLES: 150 acres; 500 grabs
RESULTS OF ANALYSES: Sediments (sand, clay, & silt)
SAMPLING METHODS: Core and grab samples
TEMPORARY STORAGE PROCEDURES: Stored at 4.5 degrees
DELAY BEFORE PERMANENT STORAGE: 1 day to 6 months
PERMANENT STORAGE PREPARATION: Fractionated
PERMANENT STORAGE CONDITIONS:
    CONTAINER: PVC and cardboard cylinders
    TEMPERATURE: Room temperature
    HUMIDITY: Normal room conditions
    LIGHT EXPOSURE: Normal room conditions
    STORAGE MEDIA: Normal air
STORAGE LIFE OF SAMPLE: No known life period
AVAILABILITY OF SAMPLES AND/OR DATA: Both samples and data are available

COMPONENT OF INTEREST: OTHER

<629>
Teng Chung-Wu
California Regional Water Quality Control Board;1111 Jackson St;Oakland, CA 94612
(415)464-1255

COLLECTION DESCRIPTION: Bacteria; algae; aquatic invertebrates; estuarine bottom sediments; eutrophic and oligotrophic lake water; river water; groundwater; estuarine and coastal seawater: data only for water quality
Data Collection Only
PURPOSE OF COLLECTION: Water quality analyses: water quality trends; compliance monitoring for state pollution laws
SAMPLING LOCATION:
STATE: California
GEOGRAPHICAL AREA: San Francisco Bay area-Portions of 9 counties

<630>
Floyd C. Larson
Water Resources Research Center;University of Tennessee;Knoxville, TN 37916
(615) 974-2151

COLLECTION DESCRIPTION: Water samples
Data Collection Only
PURPOSE OF COLLECTION: Data for use by water resources personnel (federal, state & local agencies, and others)
SAMPLING LOCATION:
STATE: Tennessee
GEOGRAPHICAL AREA: Fort Loudon Reservoir
DATES OF SAMPLING: June 1965 to July 1, 1971
NUMBER OF SAMPLES: Many
SAMPLING METHODS: Manually collected using hose and pump.
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<631>
John Carothers
U.S. Army Corps of Engineer; Charleston District; P.O. Box 919; Charleston, SC 29402
(803) 577-4171, ext. 258

COLLECTION DESCRIPTION: Water samples from rivers and freshwater lakes
Data Collection Only
PURPOSE OF COLLECTION: Chemical analyses
SAMPLING LOCATION:
CITY: Wilkesboro
COUNTY: Wikes
STATE: North Carolina
GEOGRAPHICAL AREA: W. Kerr Scott Reservior
DATES OF SAMPLING: April 3, 1969 to present
RESULTS OF ANALYSES: pH, DO, Temperature, conductivity
SAMPLING METHODS: Recorder
AVAILABILITY OF SAMPLES AND/OR DATA: Available

<632>
James A. Harris
Corps of Engineers; P.O. Box 2288; Mobile, AL 36628
(205) 690-2724

COLLECTION DESCRIPTION: Water samples from freshwater lakes and rivers
Data Only
PURPOSE OF COLLECTION: water quality data
SAMPLING LOCATION:
GEOGRAPHICAL AREA: United States; Tailwater of Army Corps of Engineers' dams
DATES OF SAMPLING: 1970 - 1974
NUMBER OF SAMPLES: Hourly samples taken
RESULTS OF ANALYSES: Dissolved oxygen, temperature, pH, conductivity, and turbidity
SAMPLING METHODS: Continuous submersible pumping
PERMANENT STORAGE CONDITIONS:Samples not retained
AVAILABILITY OF SAMPLES AND/OR DATA: Data is available as time allows

<633>
Donald K. Atwood
Dept. of Marine Sciences; University of Puerto Rico; Mayagez, PR 00700
(809) 892-2482

COLLECTION DESCRIPTION: Seawater data
Data Collection Only
PURPOSE OF COLLECTION: Research
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Caribbean Sea
DATES OF SAMPLING: 1969 to present
NUMBER OF SAMPLES: Numerous
RESULTS OF ANALYSES: Sea water
SAMPLING METHODS: Nansen and Niskon bottles
PERMANENT STORAGE CONDITIONS:
CONTAINER: As per CICAR manual
AVAILABILITY OF SAMPLES AND/OR DATA: On limited basis for specific purposes; unlimited after publication

<634>
Peggy Davis
Code 8503 Naval Weapons Center; China Lake, CA 93555
(714) 939-6219

COLLECTION DESCRIPTION: Gaseous air and air particulate data
Data Collection Only
PURPOSE OF COLLECTION: To document visibility trends for the Mojave Desert
SAMPLING LOCATION:
CITY: China Lake
COUNTY: Kern; Inyo; San Bernardino
STATE: California
GEOGRAPHICAL AREA: Naval Weapons Center
DATES OF SAMPLING: 1971 to present
NUMBER OF SAMPLES: 20
SAMPLING METHODS: Chemiluminescence, non-dispersive infrared, high volume sampler
OTHER: Samples are analyzed automatically at time of sampling and recorded on magnetic tape except particulate material captured on paraffin-coated mylar and sent on drums to University of California at Davis for cyclotron activation analysis
AVAILABILITY OF SAMPLES AND/OR DATA: Data available from state and federal agencies

<635>

COMPONENT OF INTEREST: OTHER

<635>
Robert Wilkins
1760 Walnut St.; P.O.Box 38; Red Bluff, CA 96080
(916) 527-4594

COLLECTION DESCRIPTION: Air particulate data
Data Collection Only
SAMPLING LOCATION:
    CITY: Red Bluff; Cotton Wood; Corning
    COUNTY: Tehama
    STATE: California
PRESAMPLING CONDITIONS: None
DATES OF SAMPLING: 1972 to present
SAMPLING METHODS: High volume air sampler

<636>
Ronald G. Draftz
IIT Research Institute; 10 W. 35th Street; Chicago, IL 60616
(312) 225-9630, ext. 5147

COLLECTION DESCRIPTION: Air particulate samples
Data and Specimens
PURPOSE OF COLLECTION: Standards for identification of aerosols
SAMPLING LOCATION:
DATES OF SAMPLING: 1965 - 1974
NUMBER OF SAMPLES: Approx. 100
SAMPLING METHODS: Filters & impactors
TEMPORARY CONTAINER: Plastic bags
PERMANENT STORAGE PREPARATION: Intact Storage
STORAGE LIFE OF SAMPLE: Unknown
AVAILABILITY OF SAMPLES AND/OR DATA: Available for trade
ADDITIONAL INFORMATION: My primary interest is gaining access to additional samples (standards) for microscopic characterization

<637>
Bernard E. Saltzman
Kettering Laboratory; College of Medicine;University of Cincinnati;3223 Eden Ave.;Cincinnati, OH 45219
(513) 872-5709

COLLECTION DESCRIPTION: Air particulates
Data and Specimens
PURPOSE OF COLLECTION: Chemical analyses
SAMPLING LOCATION:
    STATE: Ohio
DATES OF SAMPLING: 1968 to 1971
NUMBER OF SAMPLES: Approx. 8000
RESULTS OF ANALYSES: Inorganic materials
SAMPLING METHODS: Membrane filter
TEMPORARY CONTAINER: Plastic
PERMANENT STORAGE PREPARATION: Intact Storage
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Available for mutual research
ADDITIONAL INFORMATION: Air particulate matter was sampled on Millipore type WS 106mm filters continuously for 1 year at each of 59 sites in 8 cities. Filters generally were changed on Mondays, Wednesdays, and Fridays. Samples [illegible] 200 to 1900 cubic meters of air. Portions of each filter have been analysed for total particulate, Pb, Zn, Cr, Cr, Ni, and Mn. A publication giving results in preparation. Location list available

<638>
P.W. Hodge
Dept. of Astronomy; University of Washington; Seattle, WA 98195
(206) 543-2888

COLLECTION DESCRIPTION: Astronomical atmospheric extinction data from air particulates
Data Collection Only
PURPOSE OF COLLECTION: Examine archival astronomical extinction data (atmospheric extinction) for trends, seasonal or other variations
SAMPLING LOCATION:
    GEOGRAPHICAL AREA: Data obtained from various observatories around the world; major data sources; Kitt Peak National (Arizona), McDonald (Texas), Lick (California) and Cerro Tololo Interamerican (Chile); other sources: Sweden, France, South Africa, India, Australia
DATES OF SAMPLING: 1950 to 1972
SAMPLING METHODS: Photoelectric photometry of standard-nonvariable stars
AVAILABILITY OF SAMPLES AND/OR DATA: Yes
ADDITIONAL INFORMATION: Data stored on cards or computer printout

<639>
James York
3500 Tudor Rd Anchorage, AK 99504
(907) 279-86[illegible], ext 341

COLLECTION DESCRIPTION: Air monitoring for suspended particulates
Data and Specimens
PURPOSE OF COLLECTION: Total particulate suspended material
SAMPLING LOCATION:
    CITY: Anchorage; Seward; Eagle River; Kenai
    STATE: Alaska
    GEOGRAPHICAL AREA: Cook Inlet
NUMBER OF SAMPLES: One-24 hour sample every 6 days
RESULTS OF ANALYSES: Mass concentration (total) and benzene soluable fraction
SAMPLING METHODS: High volume air sampler and 8 x 10 glass fiber filter
TEMPORARY CONTAINER: Manilla folder
DELAY BEFORE PERMANENT STORAGE: 24 to 48 hours
    DRYING: Dessicate at 20" Hg for 24 hr.

<640>
Jerry Garro
Akron Region;Air Pollution Control Agency;177 S. Broadway; Akron, OH 44308
(216) 375-2480

COLLECTION DESCRIPTION: Physical particulates from air samples
Data and Specimens
PURPOSE OF COLLECTION: Test for suspended particulates in the atmosphere. Air pollution standards
SAMPLING LOCATION:
    CITY: Akron
    COUNTY: Summit
    STATE: Ohio
DATES OF SAMPLING: 1973 thru present
NUMBER OF SAMPLES: Approx. 50 per year
SAMPLING METHODS: Hi-Volume Sampler
PERMANENT STORAGE PREPARATION: Intact Storage
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Samples kept in manila folders in file cabinet
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Data upon request; portions of samples may be available upon request.

COMPONENT OF INTEREST: OTHER

<641>
A.W. Hogan
Atmospheric Sciences Research Center; 130
Saratoga Road; Scotia, NY 12302
(518) 377-6477

COLLECTION DESCRIPTION: Air particulate,
precipitation and snow samples
Data Collection Only
PURPOSE OF COLLECTION: World aerosol climatology
SAMPLING LOCATION:
GEOGRAPHICAL AREA: Atlantic; Pacific;
Antarctic

COMPONENT OF INTEREST: MAJOR ELEMENTS
(SEE ALSO 4, 11, 29, 34, 62, 77, 79, 84, 86, 102, 104, 111, 196, 200, 201, 202, 205, 208)

<642>
Curtis J. Richardson
School of Natural Resources; University of Michigan; East University Avenue; Ann Arbor, MI 48104
(313) 763-2239

COLLECTION DESCRIPTION: Tracheophytes and spermatophytes from aspen forests and marshlands of Central Michigan; water and soil samples; chemical air particulates, and precipitation samples
Data and Specimens
PURPOSE OF COLLECTION: Chemical analyses; soil survey
SAMPLING LOCATION:
    COUNTY: Roscommon; Cheboygan; Emmet
    STATE: Michigan
DATES OF SAMPLING: 1972 - 1974
NUMBER OF SAMPLES: 2,000
RESULTS OF ANALYSES: Kjeldahl (N), Ca, Mg, Na, K, NO3-N, NH4-N
SAMPLING METHODS: Groundwater - wells, ppt-rain samples; plant - standard harvesting techniques. (I.B.P. handbook); Soil - Black ASA standard techniques.
TEMPORARY CONTAINER: Soils - paper containers; water - polyethylene bottles - acid washed (samples frozen)
TEMPORARY STORAGE PROCEDURES: Samples collected, frozen immediately, analyzed within 2 months.
PERMANENT STORAGE PREPARATION: Homogenization
    FREEZING: -5 degrees C
    DRYING: Plants: 85 degrees C to constant temperature
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Plastic Bottles, sealed after grinding

<643>
G. Dennis Cooke
Dept. of Biology;Kent State University;Kent, OH 44242
(216) 672-3429

FORMAL NAME OF COLLECTION: Twin Lakes Project Limnologic samples
COLLECTION DESCRIPTION: Pelagic phytoplankton; zooplankton; lake bottom sediments
Data and Specimens
COMMON NAME: Pelagic Phytoplankton and zooplankton
PURPOSE OF COLLECTION: Assess impact of sewage diversion and aluminum sulfate treatment on three eutrophic lakes, diversity and density
SAMPLING LOCATION:
    CITY: Kent
    COUNTY: Portage
    STATE: Ohio
    GEOGRAPHICAL AREA: East Twin Lake; West Twin Lake; Dollar Lake
DATES OF SAMPLING: 1969-Present
SAMPLING METHODS: Kemmerer sampler for phytoplankton; #25 tow net for zooplankton
TEMPORARY CONTAINER: Bottles
TEMPORARY STORAGE PROCEDURES: Zooplankton stored in bottles in formalin; Samples of water are prepared according to McNabb (1960. Limnol. Oceanogr. 5:57) for phytoplankton
PERMANENT STORAGE PREPARATION: Intact Storage
    OTHER: Cleared millipore filter-immersion oil
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Slide boxes; glass bottles
AVAILABILITY OF SAMPLES AND/OR DATA: In our laboratories

<644>
R.J. Goodland
Box AB; Millbrook, NY 12545
(914) 677-5072

FORMAL NAME OF COLLECTION: The Cary Arboretum of the New York Botanical Garden
COLLECTION DESCRIPTION: Terrestrial plants
Data and Specimens
PURPOSE OF COLLECTION: Leaf Mineral Content
SAMPLING LOCATION:
    CITY: Millbrook
    COUNTY: Dutchess
    STATE: New York
DATES OF SAMPLING: Throughout the season
NUMBER OF SAMPLES: Approx. 1000
RESULTS OF ANALYSES: Calcium; Magnesium; Iron; Manganese; Potassium; Aluminum
TEMPORARY CONTAINER: Screw-top plastic jars
    DRYING: Forced draft oven
ADDITIONAL INFORMATION: Includes preliminary statistical analysis

<645>
Paul V. Nelson
Dept. of Horticultural Science; P.O. Box 5216 North Carolina State University;Raleigh, NC 27607
(919) 737-31[illegible]

COLLECTION DESCRIPTION: Mature leaves of terrestrial plants.
Data Collection Only
PURPOSE OF COLLECTION: Foliar analysis standards for florists' crops
SAMPLING LOCATION:
    STATE: North Carolina
DATES OF SAMPLING: 1967 - present
NUMBER OF SAMPLES: Approx. 1000
RESULTS OF ANALYSES: Plant leaf tissue, mineral nutrient content
SAMPLING METHODS: Generally, the most recently mature leaves of plants are sampled.
TEMPORARY CONTAINER: Moisture tight poly bags until analyzed
TEMPORARY STORAGE PROCEDURES: Once analyzed, samples are destroyed and only data saved
PERMANENT STORAGE PREPARATION: Homogenization
    HIGH TEMPERATURE ASHING: 500 degrees C
    DRYING: 10 degrees C for 24 hrs
    OTHER: Dissolve ash in 0.5 n HCl for analyses
STORAGE LIFE OF SAMPLE: Several years
AVAILABILITY OF SAMPLES AND/OR DATA: Data available
ADDITIONAL INFORMATION: Program designed to develop standards for foliar analysis of florists crops, i.e. a system of monitoring the fertilizer program. We collect grown and research samples, analyze these, retain the data, and discard the samples. Crops analyzed to date are chrysanthemum, begonia, poinsetta, and rose. Nutrients studied include N, P, K, Ca, Mg, S, Fe, Mn, Zn, Cu, B, Mo, and NH(4). Studies published.

<646>

COMPONENT OF INTEREST: MAJOR ELEMENTS

<646>
William C. Denison
Dept. of Botany; Oregon State University;
Corvallis, OR 97331
(503) 754-1106

COLLECTION DESCRIPTION: Lichens and bryophytes for air quality monitoring.
Data and Specimens
PURPOSE OF COLLECTION: Monitoring air quality especially, SO2, F, and heavy metals
SAMPLING LOCATION:
STATE: Oregon; Washington
GEOGRAPHICAL AREA: 400 sites
DATES OF SAMPLING: 1922 to present
NUMBER OF SAMPLES: Approx. 400
PERMANENT STORAGE PREPARATION: Intact Storage
DRYING: Yes
PERMANENT STORAGE CONDITIONS:
CONTAINER: Paper
AVAILABILITY OF SAMPLES AND/OR DATA: Both, with prior arrangement
PUBLICATIONS: Denison, A Guide to Air Quality Monitoring with Lichens, Lichen Technology,Inc. Box 369, Corvallis, Oregon 97331

<647>
N. Stark
School of Forestry;University of Montana;
Missoula, MT 59801
(406) 243-2913

COLLECTION DESCRIPTION: Tropical terrestrial spermatophytes and white sand soil
Data and Specimens
PURPOSE OF COLLECTION: Nutrient levels in tropical soil and vegetation
SAMPLING LOCATION:
CITY: Moura; Manaus; Mauneapuru; Borba; Amazonas
GEOGRAPHICAL AREA: Brazil; Tingo Maria, Peru
PRESAMPLING CONDITIONS: Wild land
DATES OF SAMPLING: 1967 (3 mos), 1973 (1 mo)
NUMBER OF SAMPLES: Approx. 50-60
RESULTS OF ANALYSES: Dried leaves, unground; soil in bags
SAMPLING METHODS: Standard field collection
DELAY BEFORE PERMANENT STORAGE: 1 to 7 years
PERMANENT STORAGE PREPARATION: Homogenization
LOW TEMPERATURE ASHING: 525 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Bags, plastic and cloth
TEMPERATURE: None
HUMIDITY: None
LIGHT EXPOSURE: None
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Data published; subsamples on request
PUBLICATIONS: Tropical Ecology

<648>
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Federal Bldg.; Missoula, MT 59801
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COLLECTION DESCRIPTION: Spermatophytes
Data and Specimens
PURPOSE OF COLLECTION: Air pollution vegetation effects studies
SAMPLING LOCATION:
STATE: Montana; Alaska; Washington
PRESAMPLING CONDITIONS: Vegetation has been subjected to sulfur-dioxide and fluoride pollutants from industrial smelters.
DATES OF SAMPLING: Oct. 1969 - Oct. 1974
NUMBER OF SAMPLES: Approx. 1000
RESULTS OF ANALYSES: Total sulfur and fluoride
SAMPLING METHODS: Standard field sample techniques for vegetative material
TEMPORARY CONTAINER: Plastic bags
DELAY BEFORE PERMANENT STORAGE: One week maximum
PERMANENT STORAGE PREPARATION: Homogenization
DRYING: 48 hrs. at 26.7 degrees C
PERMANENT STORAGE CONDITIONS:
CONTAINER: Plastic bags
TEMPERATURE: 15.6 to 21.1 degrees C
LIGHT EXPOSURE: Dark
STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Samples and data available on request

<649>
Richard F. Watt
Northcentral Forest Exp. Sta.; USDA Forest Service 1-26; Agriculture Bldg.; University of Missouri; Columbia, MO 65201
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COLLECTION DESCRIPTION: Oak and dogwood leaf tissue
Data Collection Only
SCIENTIFIC NAME: Quercus alba; Q. velutina; Q. ceccinea; Cornus florida
COMMON NAME: White, black, scarlet oak; flowering dogwood
PURPOSE OF COLLECTION: Analyses of leaf tissue in forest fertilization research
SAMPLING LOCATION:
COUNTY: Reynolds; Shannon;Texas; Dent; Carter
STATE: Missouri
GEOGRAPHICAL AREA: 9 separate locations in these counties
PRESAMPLING CONDITIONS: Forest stands thinned, then some trees fertilized; others untreated
DATES OF SAMPLING: 1969 to present
NUMBER OF SAMPLES: 500 trees with 5 annual samples each
RESULTS OF ANALYSES: N, P, K, Ca, Mg
SAMPLING METHODS: Leaves selected from upper tree canopy in Aug. 1-15th.
DELAY BEFORE PERMANENT STORAGE: Samples discarded after Kjeldahl and spectrographic analyses
PERMANENT STORAGE CONDITIONS: Samples not retained

COMPONENT OF INTEREST: MAJOR ELEMENTS

<650>
Frank F. Munshower
Dept. of Animal and Range Science; Montana State University; 1407 S. Bozeman; Bozeman, MT 59715
(406) 994-4821

COLLECTION DESCRIPTION: Dried woody plant tissues, soils, lyophilized mammal tissues
Data and Specimens
COMMON NAME: Plant tissues from range plants, cultivated crops, woody species
PURPOSE OF COLLECTION: Collected and preserved as part of baseline data acquisition program prior to development of coal-fired steam electric power generation in SE Mont.
SAMPLING LOCATION:
    COUNTY: Rosebud
    STATE: Montana
PRESAMPLING CONDITIONS: Rural area, primary economic base-cattle grazing and dryland wheat or barley production.
DATES OF SAMPLING: Sept. 1974 to present
NUMBER OF SAMPLES: Approx. 3,000
RESULTS OF ANALYSES: Sulfur; fluorine
TEMPORARY CONTAINER: Plant in paper sacks; animal tissues in plastic sacks
TEMPORARY STORAGE PROCEDURES: plants-dried; animal tissues - frozen
DELAY BEFORE PERMANENT STORAGE: variable; few days to several weeks
PERMANENT STORAGE PREPARATION: Homogenization
    LYPHYLIZATION: Animal tissues
    DRYING: Plant tissues
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Glass
    TEMPERATURE: None
    HUMIDITY: None
    LIGHT EXPOSURE: Specimen vials stored in closed boxes
    STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Both sulfur, fluoride, and trace element composition and the samples themselves are available if outside researchers will make the results of their analyses available to us.

<651>
Richard L. Maples
Soil Testing Laboratory; University of Arkansas; P.O. Box 767; Marianna, AR 72360
(501) 295-2851

COLLECTION DESCRIPTION: Agricultural soil samples; domestic terrestrial spermatophytes, specifically cotton and soybeans.
Data and Specimens
COMMON NAME: Cotton and Soybeans
PURPOSE OF COLLECTION: Chemical Analysis
SAMPLING LOCATION:
    STATE: Arkansas
PRESAMPLING CONDITIONS: Soil fertility experimental plots
DATES OF SAMPLING: 1958 to present
NUMBER OF SAMPLES: Approx. 5, 000
RESULTS OF ANALYSES: Soils: pH; organic matter; [illegible] Ca; Mg; Na; NO3-; N; leaves and petioles of plants: N; P; K; Ca; Mg; Mn; Fe; Zn; S
SAMPLING METHODS: SCS survey maps; prospective experimental sites
TEMPORARY CONTAINER: Soils; waxed paper cartons; Plants; glass vials
TEMPORARY STORAGE PROCEDURES: Samples are dried, ground, analyzed, stored.
DELAY BEFORE PERMANENT STORAGE: 3 days to 6 months
PERMANENT STORAGE PREPARATION: Fractionated; Homogenization
    DRYING: 66 degrees C for plants; 29 degrees C for soils
PERMANENT STORAGE CONDITIONS:
    TEMPERATURE: None
    HUMIDITY: None
    LIGHT EXPOSURE: None
    STORAGE MEDIA: Air
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Will consider requests for samples and data
ADDITIONAL INFORMATION: Samples were collected from research plots by research agronomists, Richard Maples (cotton fertilization) and J.L. Keogh (soybean fertilization); They include most of the soil types and climatic conditions of Eastern Arkansas;

<652>
Sammy D. Atwell
Dept. of Agronomy; University of Missouri Extension; Courthouse; New Madrid, MO 63869
(314) 748-5531

COLLECTION DESCRIPTION: Soil samples analyzed for nutrients N, [illegible], Ca, and Mg; domestic plants
Specimens Only
PURPOSE OF COLLECTION: Soil test
SAMPLING LOCATION:
    COUNTY: New Madrid
    STATE: Missouri
DATES OF SAMPLING: All year
NUMBER OF SAMPLES: 700
SAMPLING METHODS: Soil probe
TEMPORARY CONTAINER: Paper box, wax lined
DELAY BEFORE PERMANENT STORAGE: 2 days
ADDITIONAL INFORMATION: Will run trace elements on special request

<653>
Donald C. Hartman
State of Alaska; Dept. of Nat. Res.; Div. of Geological and Geophysical Surveys; 3001 Porcupine Dr.; Anchorage, AK 99501
(907) 279-1433

Data and Specimens
PURPOSE OF COLLECTION: Geological survey
SAMPLING LOCATION:
    STATE: Alaska
    GEOGRAPHICAL AREA: Brook's Range; Wrangell Mountains; Alaska Peninsula; Talkeetna Mountains; Gulf of Alaska
SAMPLING METHODS: Helicopter and airplane supported geolgoic field parties.
PERMANENT STORAGE PREPARATION: Intact Storage
    OTHER: Thin sections; age dating
PERMANENT STORAGE CONDITIONS:
    STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Inspection at Anchorage office
ADDITIONAL INFORMATION: Fossils; precious and semi-precious metals

<653>

COMPONENT OF INTEREST: MAJOR ELEMENTS

<654>
Roy J. Helfinstine
Illinois State Geological Survey; Natural Resources Bldg.; Urbana, IL 61801
(217) 344-1481

FORMAL NAME OF COLLECTION: Washability data
COLLECTION DESCRIPTION: Physical and chemical properties of coal; sulfur and ash content; washability data
Data Collection Only
COMMON NAME: Coals
PURPOSE OF COLLECTION: Information about physical and chemical properties of Illinois coals.
SAMPLING LOCATION:
    STATE: Illinois
DATES OF SAMPLING: 1968 to present
NUMBER OF SAMPLES: About 500 separate coal samples and 5000 chemical analyses.
SAMPLING METHODS: Most of operating coal mines of Illinois were sampled.
AVAILABILITY OF SAMPLES AND/OR DATA: Most data available in publications; some additional data available upon request.

<655>
Robert E. Wyeth
Great Lakes Laboratory; State University College; 1300 Elmwood Ave.; Buffalo, NY 14222
(716) 826-5821

COLLECTION DESCRIPTION: Lake bottom sediments
Data and Specimens
PURPOSE OF COLLECTION: To study the chemical physcal relations of the benthic environment
SAMPLING LOCATION:
    STATE: New York
    GEOGRAPHICAL AREA: Lake Ontario
DATES OF SAMPLING: Spring of 1972 to spring of 1973
NUMBER OF SAMPLES: 802
SAMPLING METHODS: Power dredge
TEMPORARY STORAGE PROCEDURES: Stored at 4 degrees C until analyzed
PERMANENT STORAGE PREPARATION: Intact storage
    FREEZING: -15 degrees C
    LOW TEMPERATURE ASHING: 103 degrees C
PERMANENT STORAGE CONDITIONS:
    CONTAINER: Polyethylene - wet sediment; glass - dry sediment
    TEMPERATURE: Ambient
    HUMIDITY: None
    LIGHT EXPOSURE: Room light
    STORAGE MEDIA: Air
AVAILABILITY OF SAMPLES AND/OR DATA: Data available; possible sample availability

<656>
P.A. Fuqua
Hanford Environ. Health Found.; P.O. Box 100; Richland, WA 99352
(509) 942-6414

COLLECTION DESCRIPTION: Data from ambient air, sanitary water, and effluent water monitoring near atomic industry
Data Collection Only
PURPOSE OF COLLECTION: Ambient air quality surveillance; chemical analyses on sanitary and efflent waters
SAMPLING LOCATION:
    CITY: Richland
    COUNTY: Richland; Benton
    STATE: Washington
    GEOGRAPHICAL AREA: AEC Hanford Works and surrounding environs
DATES OF SAMPLING: 1967 to present
SAMPLING METHODS: Water: grab samples; Air: CO: IR monitor; NO: Chemiluminescent monitor; NO2: Chemiluminescent monitor, liquid scrub; SO2: liquid scrub
AVAILABILITY OF SAMPLES AND/OR DATA: Data available to outside researchers, subject to approval by Atomic Energy Commission's Richland office
ADDITIONAL INFORMATION: Hanford Environmental Health Foundation carries out its environmental monitoring program as a contractor to the Atomic Energy Commission's Hanford Works, just north of Richland, Washington. Following is a summary of our current program of environmental surveillance. AIR (ambient): 1. NO2 via liquid scrub at 3 offsite locations; 2. NO2 via chemiluminescence at Mobile Pollution surveillance trailer; 3. NO, NOx via chemiluminescence at Mobile Pollution Surveillance trailer; 4. CO via infrared absorption at Mobile Pollution Surveillance trailer; 5. SO2 via liquid scrub at 3 offsite locations; WATER (sanitary): 1. Routine coliform bacteriological testing (approximately 1000 grab samples/yr) 2. Chemical analyses of Hanford Project drinking water for: (biannually) (1) Linear alkyl sulfonates; (2) Sulfates; (3) Chlorides; (4) Fluorides; (5) Nitrates; (6) Total dissolved solids; (7) Mercury; (8) Silver; (9) Barium; (10) Hexavalent chromium; (11) Arsenic; (12) Iron; (13) Zinc; (14) Copper; (15) Manganese; (16) Cadmium; (17) Lead; (18) Cyanide; (19) Phenols; 3. Routine nitrate analyses on drinking water (4 weekly samples); WATER (effluent): 1. Weekly mercury analyses on 2 industrial effluent (seepage) ponds; 2. Monthly analyses for biochemical oxygen demand of effluent of one sewage treatment plant.

<657>
Douglas Tubbs
Ventura County Air Pollution Control District; 625 E. Santa Clara St.; Ventura, CA 93001
(805) 648-6131, ext. 2668

COLLECTION DESCRIPTION: Data on local air quality: weather data; physical and chemical particulate analysis
Data Collection Only
PURPOSE OF COLLECTION: Analysis of patterns of local air pollution; input to state and federal data banks
SAMPLING LOCATION:
    CITY: Camarillo;Ojai; Oxnard;Point Mugu;Port Hueneme;Santa Paula;Simi Valley; Thousand Oaks; Ventura
    COUNTY: Ventura
    STATE: California
DATES OF SAMPLING: 1963 to present
SAMPLING METHODS: Measurements taken from ambient air sampling-recorded on strip charts, reduced by hand or computer to hourly average concentrations
AVAILABILITY OF SAMPLES AND/OR DATA: Data readily available in various forms. Call or write for specifics
ADDITIONAL INFORMATION: Contaminants measured; ozone; oxidants; nitrogen oxides(NO, NO2, NOX); carbon monoxide; hydrocarbon(total); sulfur dioxide; particulate matter; other data: wind speed; wind direction; temperature; relative humidity

COMPONENT OF INTEREST: MAJOR ELEMENTS

<658>
Edward Hyne
165 Capitol Avenue; Hartford, CT 06115
(203) 566-3310

COLLECTION DESCRIPTION: Air samples
Data and Specimens
PURPOSE OF COLLECTION: Connecticut Air Sampling Network
SAMPLING LOCATION:
    STATE: Connecticut
DATES OF SAMPLING: 1965 to present: daily samples
NUMBER OF SAMPLES: 75 sites; 24 hour samples
SAMPLING METHODS: Hi Vol air sampler and Anderson header
TEMPORARY STORAGE PROCEDURES: Federal Register
STORAGE LIFE OF SAMPLE: Indefinite
AVAILABILITY OF SAMPLES AND/OR DATA: Requests should be submitted to department commission

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16. ABSTRACT

This report presents the data base developed in the National Environmental Specimen Bank (NESB) Survey. The methodology utilized in developing the mailing lists and in developing and maintaining the data base records also is included. The NESB Survey Data Base is computerized in the Oak Ridge Computerized Hierarchical Information System, Oak Ridge National Laboratory, Oak Ridge, Tennessee 37830.

The NESB Survey mailing list consisted of 4500 names and addresses. The 657 environmental specimen collections that were located and documented in the NESB Survey Data Base include the following categories: animal, atmospheric, geological, microbiological, plant and water. However, the majority of the collections identified are biological in nature. Three indices of the NESB Survey Data Base are included in this report: (1) respondents names and addresses categorized by organizational affiliation, (2) alphabetical listing of respondents, and (3) geographical sampling location for materials in collections. No attempt is made in this report to evaluate the information obtained in the NESB Survey.

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